



Frontiers in Finance

For decision-makers in financial services
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Letter from the editors

Change and innovation are not new to financial services. If anything, these are the few things that have remained constant in our dynamic sector. However, what is different today than what we have experienced in the past is the interconnectedness of our market and society as a whole. No longer is disruption restricted to just one corner of the market. The same can be said about innovation and opportunity. An idea, innovation or discovery in one area of our sector often has implications across financial services and even the world. The implications of innovation and technological advancement that we are witnessing in specific areas of financial services — be it cognitive computing in asset management or deep customer insights gleaned from data lakes in banking — are being felt across the industry in many interesting ways. In this edition of *Frontiers in Finance*, we attempt to showcase a few examples of the breadth of change occurring in our sector.

The rapid development of the fintech sector is increasingly driving change not only in the operations of our industry itself, but also in government and regulatory responses to risk and uncertainty. In recent months, a number of governments have announced regulatory sandbox programs to explore and encourage the value of fintech, and to help fintech companies manage the regulatory challenges associated with new technologies. In parallel, it is clear that a large majority of CEOs are concerned about how to integrate technologies such as artificial intelligence and cognitive processes into traditional automated business processes: regulatory technology (regtech) will help reshape the financial industry's approach to regulatory compliance.

It is, of course, true that advanced technology and automation will transform rather than eliminate the expertise and judgment needed to manage financial services in times of continuing turbulence. Key decision-makers responsible for people and skills will need clear strategies to tackle the challenges of market disruption, innovation and digital labor, and we offer them some pointers.

Against these backgrounds, local and sectoral perspectives continue to pose fascinating challenges. For example, demand for home loans continues to be strong in Canada, the US, the UK and Australia despite increasing gaps in affordability. Mobile apps and aggregator websites make it easy for prospective customers to compare offers across lenders. Hence, retail banks across the globe are having to invest billions of dollars in digital technologies and advanced analytics to deliver a winning customer experience. A recent KPMG survey offers some valuable insights to guide them.

In insurance, many firms still use outdated, inefficient and labor-intensive claims models. Price sensitivity and competitive pressures are bringing these models into question. We consider how current developments in technology can improve both policy and processes, and reduce claims management and settlement costs. Furthermore, the disruptive potential these technologies present suggests that the insurance sector is ripe for radical change, much as the banking sector experienced several years ago. As a result, across the globe, venture capital investment in insurance is increasing rapidly, a trend we expect to continue.

Jeremy Anderson's keynote article looks at the questions senior executives in financial services face today in addressing the innovation and new technologies being introduced across the industry: which areas to invest in, which have the greatest potential for return on investment, and when and where to take a calculated risk. Executives understand their operating models have to evolve and in some cases utterly transform, but as we all know, the key to winning is understanding where and how to place your bets.

As implications of new innovation continue to be felt, we focus on the horizon and what is coming next to help our clients move forward through their evolving business journeys.



Jim Suglia
KPMG in the US



Ton Reijns
KPMG in the Netherlands



Maria Trinci
KPMG Australia

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Innovating for a digital world

By **Jeremy Anderson**
Chairman, Global Financial Services



Jeremy Anderson

In the previous edition of *Frontiers in Finance*, we noted the re-awakening of a sense of urgency towards growth and transformation in the financial services industry. In particular, we explored some of the challenges inherent in embracing the digital age; and the implications of bringing innovation to the heart of core business processes in order to both reduce costs and transform business model dynamics.

The 'digital customer' is much talked about. 'Digital innovation' is also the focus of executive bandwidth. But here we look at some of the issues of the third pillar of digital transformation — the 'digital enterprise'.

- How can new technologies help us cope more efficiently and effectively with the burden of regulation that the industry has had to absorb over the last 7 years?
- How to reduce employee costs and improve productivity through the adoption of digital labor, robotics and cognitive tools?
- How can technology best be harnessed to pursue the goals of financial inclusion and to deliver desirable products and services at reasonable cost to the consumer?

The last point is a critical issue for the industry as the gap between the richest and poorest widens in many societies, and

social tensions increase between the haves and the have-nots. Rebuilding trust and credibility depends on getting this right.

A key issue, then, is how to bring innovation alive in financial services, and create organizations that balance today's customer needs with preparation for a future that could look very different. If we were to take at face value the more exaggerated claims for developments such as cloud-based computing, cognitive technologies, robotics and blockchain, we might conclude that the financial world will soon be transformed into a nirvana of inexpensive, consistent products and services delivered instantly online via tablet and smartphone, from financial advice for retirement to complex mortgage loans — all in a matter of minutes.

But of course immediate and effective implementation of a huge range of transformative technologies is not a realistic prospect. The adoption rate of technological innovations increases as they become proven, and the difficulty for management (especially for senior managers not personally close to the delivery and deployment of new technology) is to assess when, and how boldly, to place their bets. Leaders in financial services have to determine the fundamental business cases for these new enabling technologies; and when and how to adopt them. Should they be pioneers, fast followers or skeptical observers, allowing others to take the lead in the first wave of introduction?

We can consider some of these opportunities in more detail.

Cloud-based computing

The transformation to cloud-based services is clearly now a mature strategy, and one that provides major opportunities not only for

well-established institutions but also for new entrants seeking to build new enterprises. While the development of cloud services initially focused on simple transactional processes such as ledger systems, it is quickly expanding to embrace global, cloud-based operations such as risk systems, actuarial modeling and secure systems for rapid processing of onboarding, know-your-customer operations and other regulatory requirements.

As cloud technology comes of age, it can begin to be used for more complex and secure operations, protected by security standards that are already now as good as the best in the industry. It is important to note that this is not just a cost reduction ploy. Many of our clients are also finding real benefits in terms of sustainability, consistency and easy upgrade paths for new developments. Regulators have also been quick to respond to the opportunities. In the ASEAN region, for example, one financial regulator sees the potential of cloud technology underpinning a range of fintech developments as an important contributor to reducing costs for consumers and pursuing its goals for financial inclusion. When regulators appreciate and promote new technology in this way, it is a sign that it has really come of age.

On the other side of the equation, there are growing competitive threats from those organizations — from outside the established financial services sector — who are masters of the platform approach. Companies such as Amazon are promoting cloud-based industry vertical tools in a manner that is the envy of some established financial services providers. They are making available specialist applications and application programming interfaces for authentication, biometrics

and integration of pre-existing applications in secure ways intended to help the process integration and fast development and prototyping of online digital services. More and more senior executives in the industry ask me whether the technology giants present a greater threat than the fintechs in disrupting business models.

Blockchain

At the other end of the innovation spectrum, development of blockchain technology — digital ledger services — is still in its early days, but progress is moving much more quickly than was previously forecast. Applications are being trialed in areas as divergent as derivatives, payment systems, client onboarding, investment management and insurance contracts. Many of those now engaging with the blockchain ecosystem are surprised by the speed of this progress.

It was previously assumed that the major benefits of blockchain would emerge slowly, being dependent on network effects, multiple participation and critical mass. Today, new concepts are being originated continually, to the point where we are reaching a critical turning point for their adoption as transformational elements in new business processes and business models. The major constraints now lie in creating robust business cases and ensuring the extensive implications of the technology are thoroughly understood before deployment.

Strategy and implications

Technology alone cannot carry the whole burden of innovation. As we have seen, the case for cloud technology is already made and accepted. That is readily becoming apparent for blockchain. The key issues are managerial: how best to move from proof of concept to end-to-end beneficial impacts on core value chains or key product and market sectors. Senior management and technologists need to work together to appreciate the real potential benefits, assess the scale of change required and innovate effectively across complete end-to-end processes. The realities of change management — human resources, time, costs, data — will really bite on the adoption of these technologies.

Developments in digital labor, from robotics to full cognitive computing technologies, will help create smooth adoption pathways by eliminating costs and improving efficiency. Robotics applications are already with us, taking over dull, repetitive tasks which otherwise depress the enthusiasm of talented individuals. Cognitive technologies face similar implementation hurdles to those in the blockchain case,

in that major investment is needed to underpin artificial intelligence learning and enable its full potential to be realized. It is still in its early days; skilled professionals will not be supplanted — or even significantly supplemented — by cognitive systems in the near future. But the direction of innovation is clear.

However, the longer-term implications for employment and skills are less so. There is an unresolved debate among economists over whether digital labor, like other transformative technologies, will create or destroy jobs. Optimists argue that technology always creates net new employment as the economic growth it stimulates outweighs the destructive impact on older industries. Pessimists argue that this time it is different; and the persistent structural unemployment in parts of the developed world could suggest that digital technology is already having a detrimental impact. These are deep issues that we plan to pick up in a future edition of *Frontiers*.

Porous boundaries

As organizations struggle to develop more agile operating frameworks to confront these multidimensional challenges, they face a dilemma: should they aim to pursue innovation within clear and existing organizational boundaries? Or is it quicker and more effective to build networks and partnerships with small, agile specialists — in fintech, insurtech, regtech and the rest — who can boost internal innovation potential? In the second case, we could increasingly see major established players developing softer and more permeable boundaries, with ideas and solutions moving more freely through the organizational wall as required.

The automotive industry is facing similar challenges, and it is fascinating to see similar strategies and similar processes emerge. For example, the development of autonomous self-driving cars depends on an intimate convergence of automotive and computing technology, so that a car will increasingly become a computer on wheels; it is no accident that Google is one of the prime movers in this field. But as this technology matures, it carries significant implications far beyond the auto manufacturer — including for insurers and financial services organizations that will have to respond to major changes in the pattern of vehicle ownership and use. The energy sector, too, will face disruption as electric vehicles increasingly displace gasoline and diesel. None of these developments will be possible without

extensive collaboration across existing corporate and sectoral boundaries.

To the extent that financial services firms have to adopt similar strategies, they will have to deal with comparable implications. Softening organizational boundaries carries significant risks for security, for protecting the sources of competitive advantage and for compliance. On the other side of the fence, financial regulators face increasing difficulties. The philosophy of regulation, almost by definition, depends on there being clearly defined and delineated entities to be regulated. As this changes, the practice of regulation will have to change with it, to focus on cross-boundary processes rather than in-company management and systems. It is to the credit of many regulators that they have recognized the potential of technology and innovation to improve the industry while bolstering consumer protection and economic robustness. We review the increasing use of regulatory sandboxes to encourage controlled experimentation elsewhere in this issue.

Looking forward, however, if we begin to see much more widespread cross-sector convergence, with skills and techniques being transplanted from sectors far away from financial services, regulators may have to confront real trade-offs between the pillars of financial stability, consumer protection and the drive for innovation and new thinking. An agile and effectively regulated financial services sector is essential to social and economic stability. One of the lessons of the global financial crisis is that if innovation is driven outside the system by intensive regulation, it can cause serious damage to consumers and to the wider economic system.

Looking ahead

In many ways, perhaps we can again look to the future with a sense that the best of times may be coming for financial services. We noted in the last edition a renewed sense of the opportunity for innovation and growth in our industry. There has never been a better opportunity for companies to innovate and reinvent themselves at previously unimaginable speed. And yet it could also be seen as the worst of times — in order to capitalize on these opportunities, and stay ahead of changing customer demands in retail, corporate and other institutional contexts, leaders face unprecedented challenges. Their success in rising to these challenges will determine how well they negotiate the transition to the new digitally driven, rapidly changing, customer-focused world. ■

The rise of the humans and the future of digital labor

How banks should prepare for what comes next

By **Robert Bolton**, KPMG in the UK



Robert Bolton

We've all seen the movies and read the books. We've heard the warnings about the advancement of technology and the creation of a future dystopian society in which technology surpasses humanity and humans answer to machines.

It's a future that many believe is closer than we think, and that some finance executives are already dealing with today. For decision-makers concerned with the future, the question they must answer is this: Are they pessimistic or optimistic about the impact new technology may have on their industry and on their organization? The answer, it seems, is 'yes'.

Finance executives face a litany of factors that spur change in their organizations; navigating through such change — both positive and negative — greatly impacts how they do business today and how they will do so in the future.

The only constant is change

Not long ago, customers relied on 'personal bankers' to help them with their day-to-day monetary transactions. These people walked into a branch where they did their basic banking business with human tellers who knew their names, or managers who knew about their families and fiscal histories.

Those days, however, are fading fast

With the proliferation of automated teller machines (ATMs), online banking, and other automated services, customers now do their banking whenever they want, from wherever they want, making

Digital labor's impact on the financial services workforce

5 Cs	Currently	Future perspective
Compliance	Human review and monitoring supported by analytics	Artificial intelligence analyzes global trading, accounting, controls and risk management in real time
Connectivity	Personal bankers and tellers	Culture of agility and innovation required as new entrants offer banks immediate agility and speed to market while fostering personalized relationships
Capability	End-to-end operating model/value chain built from functions outwards to the customer	Significant demand on human resources to retrain the workforce; new opportunities to become innovators of new products and services
Cost	Employees involved in procedural roles	Retraining human roles, developing/selling new capabilities for investment services
Capacity	Siloed based on the value chain of sales, distribution, underwriting, operations, claims and support	Achieving agility, striving to meet customer expectations across every channel

it unnecessary for anyone to set foot in a brick-and-mortar branch for anything but the most complicated of transactions. It's the price of progress and part of a growing dilemma facing the financial industry: convenience costs jobs.

As technology improves and machines become smarter, faster and cheaper, it's possible to imagine a future in which other easily automatable parts of the organization follow a similar path, with current human employees training their robotic replacements to take their jobs.

As dire as this sounds, however, the adoption of new technology in the workplace can, according to some experts, actually be beneficial to overall job growth and productivity. According to Klaus Schwab, founder of the World Economic Forum, our society is already well into the start of the Fourth Industrial Revolution, which is transforming the way in which humans and machines relate to one another.

In this new era, Schwab says, it is only a matter of time before computers and robotics become capable enough to replace humans in jobs that are susceptible to automation, such as bank tellers, manufacturing, and as customer service representatives in call centers. Financial institutions are now developing chatbots and other smart assets that gather client, economic, social and other internal data to formulate customized marketing and service recommendations. Banks are even exploring opportunities to leverage artificial intelligence assets enabled with natural language processing to provide banking services.

The realities of what this convergence could mean become clear with:

- the Bank of England estimating 15 million jobs lost from the UK economy in the next 20 years due to robotic automation¹
- 130 million knowledge workers (approximately 47 percent of

total US employment) facing job replacement by digital technologies by 2025.²

Offsetting these changes, however, experts see a series of potentially positive outcomes, as financial institutions and employees work to reconfigure and redesign their workforces. These changes, it is predicted, will lead to employees learning new skills, and the creation of more expansive and, potentially, more lucrative positions within the organization. While specific titles and assignments will change from organization to organization, we see two key drivers that will manifest change:

- **Cognitive automation drivers**
- **Leveraged professionals** — lower-qualified professionals who, through technology, can provide the same output as a fully qualified professional in the same field.

¹ Source: <http://www.independent.co.uk/news/business/news/15-million-uk-jobs-at-risk-from-robots-warns-bank-of-england-a6732381.html>

² Source: http://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf



Companies that answer these questions successfully should be able to steer their organizations toward a 'preferable future state' in which they can proactively determine how existing human resources will be retrained and repurposed to manage and oversee the machines that will now be doing their previous jobs.



- **Connected workers** — providing all workers in a specific group or business function with access to all of the same materials so that everyone has access to the best information available.
- **Cognitive processing and robotic automation drivers**
- **Working at the speed of thought** — augmented professionals working faster and with much greater productivity.
- **Digital workers** — complete replacement of human workers with robotics and other technologies that can perform tasks more efficiently.

Preparing for the future

There's no denying that technology will change how businesses — both inside and outside of the finance sector — will operate in the future. The questions that remain to be answered, however, are how will those changes manifest themselves, and what impact will they have on the economic opportunities for future generations.

While the influx of new, automated technology will most likely displace workers in the lower and middle tiers of the organization, the responsibility for implementing these changes should fall to change leaders and decision-makers at a financial institution's highest level. This is especially important now, at the beginning of this transition, where organizations are experimenting with the introduction of advanced technology across all facets of a company.

While the role does not yet exist, we would not be surprised to see banks create a new c-suite position for someone like a chief automation executive who would be tasked with sourcing the technology to modernize the organization, and to own the change

process by facilitating higher-purpose conversations designed to work out organizational dilemmas created by the implementation.

To that end, there are several key questions that companies will need to answer before moving forward with this process, such as:

- What will our future workforce look like?
- How can we successfully integrate digital and human labor?
- How does this change redefine what 'career' means within our organization?
- How will we have to change our operating model to remain relevant and competitive?
- How do we grow and retain employees in an environment where job security is increasingly threatened?

Companies that answer these questions successfully should be able to steer their organizations toward a 'preferable future state' in which they can proactively determine how existing human resources will be retrained and repurposed to manage and oversee the machines that will now be doing their previous jobs. What's more, and perhaps even more importantly, companies must look at the training required by their next-generation employees.

With about 50 percent of all children born today expected to live until 100 or more, it is likely for future generations to have productive careers that last 60 or 70 years. This presents yet another dilemma for today's financial companies — and the education system — as they need to determine what kind of skills and training will be needed so that today's children are —

and can remain — employable for six decades or more after they enter the workforce.

While it is difficult to define what specific skills will be the most valued in a future workforce, the fact is there are key human traits that robots and technology can never replicate, no matter how advanced they become. Because of this, it is likely that companies — and the education system — will begin to place more importance on creative thinking, innovation and problem solving in uncertain and unclear situations where set rules and protocols may not always provide an answer or address a specific problem.

This type of seismic shift in thinking and training doesn't happen quickly or easily. In fact, business and finance leaders who want to see their organizations thrive in the newly automated future would be wise to craft detailed plans that can help them assess and prepare for the impact digital labor may have on their workforces. Some key steps these change managers can take along this path include:

- **Translating business strategies into people implications** — Think about where you are headed as an organization and how cognitive technologies can help execute that strategy.
- **Shaping and designing the future workforce** — Explore different scenarios that might impact the organization and develop appropriate responses to the most likely ones; create detailed blueprints of how human and digital labor can be optimally integrated across the organization.
- **Facilitate change** — Create and follow a strategic plan to help identify new job roles, and to begin training (or

retraining) existing staff to fill newly created positions.

- **Monitor progress** — Adopt an agile response to ensure all risks are managed, including the supply of talented and capable people.

Follow the leaders

For companies that are taking proactive steps to get out in front of the coming technological changes impacting their industries, the future may not look so uncertain because they understand what many have yet to discover — that the disruption caused by the incorporation of advanced robotics and artificial intelligence can actually help to drive the growth of new, better-paying jobs.

As robots and other advanced technologies become a larger and more significant part of the workforce, they become cheaper. And, as we use more of them, worker productivity will actually rise, as will wages. These are just two factors as to why a counter-balancing dynamic will take hold, and job creation will, in fact, take place.

In short, it is quite possible that the adoption of these technologies will drive a new wave of innovation across organizations, leading to the creation of new products and services that will need talented and trained human resources (people) to build, lead, market and maintain them. By embracing these changes early, financial services companies can better determine what their future workplace will look like and, more importantly, prepare for the future by ensuring they have a trained and dedicated workforce ready to help them compete and succeed for generations to come.

To learn more about digital labor and its potential impact on your business, download the full report, *Rise of the humans*. ■

Contributor

Robert Bolton Partner

KPMG in the UK

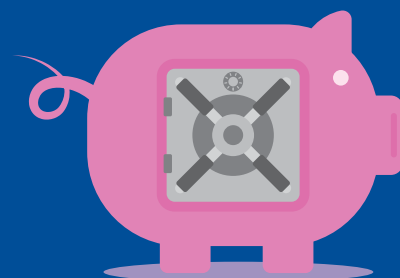
T: +44 20 7311 8347

E: robert.bolton@kpmg.co.uk

Robert is a partner in KPMG's Global HR Center of Excellence where he delivers world-class HR solutions to the firm's global clients. He has more than 20 years of experience in management and consulting, developing strategically differentiated HR functions that can bring value to their business.

Can banks win the fight for home loan customers?

By **Geoff Rush**, KPMG Australia
By **David Bolton**, KPMG in Canada
By **Chris Monaghan**, KPMG in the UK



Geoff Rush



David Bolton



Chris Monaghan

Intense competition for home loan customers has created a price war that is affecting profitability. To avoid this race to the bottom, retail banks are seeking innovative ways to differentiate their offers by providing a better experience for their customers. To do this successfully, they need a system to understand the ever-changing needs and increasing expectations of customers and the ability to bring innovative, value-adding solutions to market swiftly. Complicating this already difficult challenge is the need to comply with changing regulatory requirements.

Residential property prices in many countries continue to rise at a rapid pace — particularly in large, urban areas. Between 2006 and 2016, median house values across major Australian cities increased by more than 10 percent a year from US\$220,000 to US\$540,000. In the same time period, average London house prices rose from US\$335,000 to US\$590,000,¹ while Greater Toronto saw an average yearly increase of 7.7 percent for two-storey family homes.² Even in the US, where the sub-prime market collapsed so spectacularly following the global financial crisis, cities like Los Angeles are now experiencing double-digit annual price growth.³

These conditions may have benefited established homeowners and investors, but, along with the higher deposits now demanded, they have also made it increasingly difficult for the next generation of prospective buyers to enter the market. During the last 10 years, average incomes have not kept pace with house price inflation, growing at a compound rate of just 3 percent in Australia, and less than 3 percent in Canada, the UK and the US — resulting in debt-to-income ratios well above historical levels.⁴ It's little surprise then, that in the UK, sales of properties for first-time buyers have declined more than any other group⁵ — with the 'baby boomers' taking advantage of historically low interest rates to become landlords to

¹ Nationwide House Prices Since 1952 <http://www.nationwide.co.uk/about/house-price-index/download-data#xtab:uk-series>

² *Financial System Review*, Bank of Canada, December 2016.

³ Source: KPMG Analysis

⁴ <http://www.tradingeconomics.com/united-kingdom/wages>

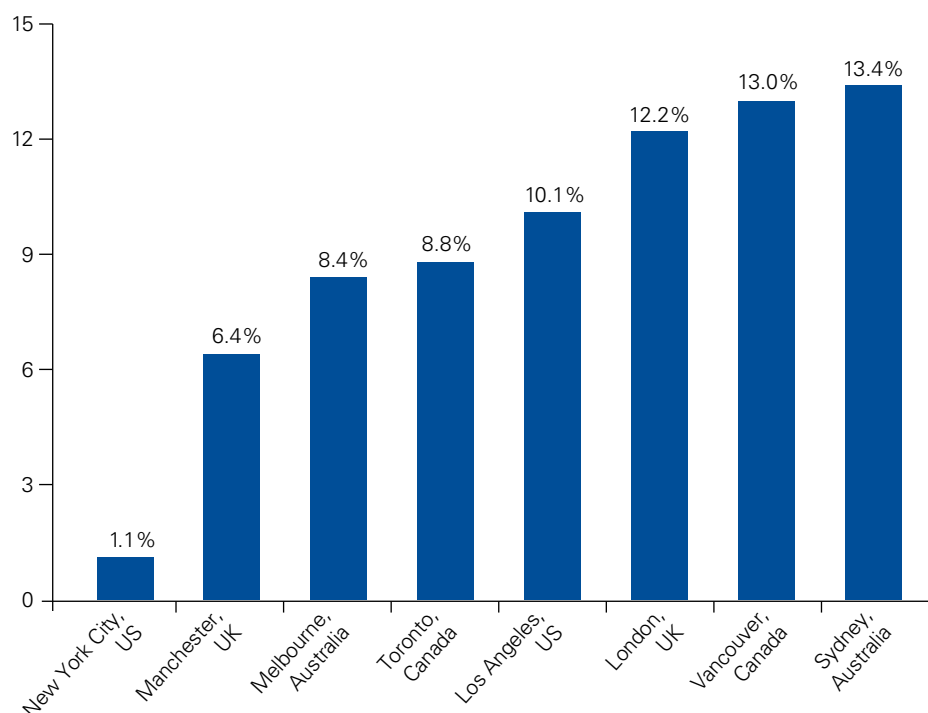
⁵ <http://www.telegraph.co.uk/personal-banking/mortgages/over-40-housing-hoarders-shut-out-millennials-says-lse-report/>

the younger 'generation rent'.⁶ The UK's housing shortage only exacerbates the situation: between 2011 and 2014 just 460,000 houses were built — less than half the estimated demand of 975,000.⁷

With demand outstripping supply in many cities around the world, and memories of the financial crash fresh in their minds, governments are trying to ease conditions for first-time buyers and cool the buy-to-rent segment (investment property), while encouraging responsible lending.

Examples of steps being taken are stricter limits on loan-to-value ratios for residential lenders coupled with more stringent checking of a buyer's financial situation to reduce the likelihood of a borrower defaulting. Various changes are also being introduced to reduce the attractiveness of rental properties. UK landlords will soon have to pay tax on their full rental income before costs, while Vancouver has announced a 15 percent transfer tax on residential properties for purchasers who are neither permanent residents nor Canadian citizens.

Figure 1: Residential asset price growth: 3-year CAGR 2013–2016⁸



Escaping the race to the bottom in loan profitability

With continued strong demand for residential property, competition amongst retail banks in home lending has become particularly fierce.⁹ Aggregator websites are putting further pressure on profit margins by enabling customers to easily compare product features and pricing across different lenders. The UK's online-only Atom Bank is offering mortgages to a range of customers, including first-time buyers and the self-employed,¹⁰ while UK brokers Trussle and Habito's online only remortgaging service provides mortgages from over 100 lenders.^{11,12}

To maintain market share, home loan providers are heavily discounting their front books below the standard variable rate. This behavior appears to be particularly acute for deals originated through brokers — who have the freedom to direct customers to a range of banks. The result? Net margins have plunged as low as 20 to 25 basis points on the front books of some banks.¹³

To escape this race to the bottom in home loan profitability, retail banks are increasingly trying to differentiate themselves on service by delivering a superior customer experience (ideally, at a lower cost-to-serve). By reimagining the home loan journey, they are using customer data and advanced analytics to develop more personalized offerings, employing mobile apps and digital platforms for e-conveyancing and settlements.

Investing wisely in the home loan customer experience

Globally, we estimate retail banks will spend as much as US\$5 billion in each of the next 2 years on improving the customer home loan experience.¹⁴ But to get the most from this investment, they need to understand what customers really want, and how this may vary by age group, gender and relationship status.

Research conducted by KPMG early in 2016 identified six 'pillars' —

personalization, integrity, time and effort, expectations, resolution and empathy — that underpin excellent customer experience and the kind of long-term customer relationships needed to drive growth and shareholder value.¹⁵

A more recent KPMG study of mass affluent home loan customers (defined as customers with annual incomes between US\$60,000 — US\$200,000), sought answers to a range of questions about their home lending experience.¹⁶ The responses indicate that:

1. Not all pillars are viewed as equally important in delivering a great home loan experience.

Respondents to our home loan survey feel that **integrity** (being trustworthy and engendering trust), **simplicity** (minimizing customer effort and creating frictionless processes) and **resolution** (turning a poor experience into a great one) were the most important.

⁶ Credit Constraints and the Composition of Home Sales. Farewell to First-time Buyers?, Felipe Carozzi, July 2015.

⁷ <http://www.bbc.co.uk/news/uk-34311522>

⁸ Source: KPMG Analysis

⁹ Note: We use the term 'retail banks' here in a broad sense, which includes building societies, credit unions and non-bank home loan providers.

¹⁰ <https://www.ft.com/content/1e3cd566-bbb1-11e6-8b45-b8b81dd5d080>

¹¹ <http://www.telegraph.co.uk/business/2016/04/10/digital-only-mortgage-broker-to-take-on-uk-rivals/>

¹² <https://www.ft.com/content/36760d6a-96c6-11e6-a80e-bcd69f323a8b>

¹³ Source: *Home Loan Survey of the Mass Affluent*, KPMG, December 2016.

¹⁴ Source: KPMG information, 2017

¹⁵ Source: *Banking the Customer Experience Dividend*, KPMG Nunwood, 2016.

¹⁶ Source: *Home Loan Survey of the Mass Affluent*, KPMG, December 2016.

The six pillars of customer experience



Personalization

Using individualized attention to drive an emotional connection.



Integrity

Being trustworthy and engendering trust.



Expectations

Managing, meeting and exceeding customer expectations.



Resolution

Turning a poor experience into a great one.



Time and effort

Minimizing customer effort and creating frictionless processes.



Empathy

Achieving an understanding of the customer's circumstances to drive deep rapport.

2. The biggest gap between customer expectations and actual experience are against the customer experience pillars that matter most to this segment.

Integrity, simplicity (time and effort) and **resolution** all failed to meet home loan customers' expectations, as figure 2 shows. Applicants expect a fair deal, with transparent terms and conditions. They also expect a fast and easy process in which required customer information is captured and processed correctly the first time (no rework). In the event that issues are encountered, at a minimum, they demand a speedy and equitable resolution.

The lengthy mortgage application process has long been a burden for consumers, involving reams of paperwork, multiple touchpoints and third parties. One UK high street lender is applying machine learning to the credit approval

process to significantly reduce decision times and referrals to credit experts. Another major UK retail bank aims to reduce the entire cycle from submission to offer from 14 days to just 3 days. Some of these UK players are also investing in technology that offers live video links to mortgage advisors and allows customers to perform transactions directly through their smartphones.

3. The quality of home loan experience varies by acquisition channel.

Of the three channels (applying through one's existing bank relationship, applying directly with a new financial institution or applying through a broker), brokers had the lowest score across all six pillars. This is a major concern given the increasing reliance home loan providers are placing on broker networks in countries like Australia, Canada, the UK and the US.

Figure 2: Comparison of expectations, with actual customer experience, when taking out a loan



Walt Disney thinks like a customer — and so can banks

Customers at Walt Disney World Resort are given digitally enabled wristbands (Magicbands) that let them buy food and merchandise and give them faster access to all the Disney experiences. And should they encounter long queues, Disney can identify the wristband holders and even

send over their favorite Disney characters to entertain them during their wait. As part of the process of reimagining customers' home loan experience, banks should consider these kinds of data-rich tools to enable them to anticipate and react to customers' needs.

How banks can create a unique customer home loan experience:

- identify which elements of the experience matter most to customers
- establish an internal process for quickly coming up with ideas and getting them tested and into the market
- make sure that every customer touchpoint — including third parties — is geared to a consistently positive experience
- build appropriate controls to comply with regulations.

Additionally, customers who applied for their home loan through a broker are highly motivated by price and have a much greater propensity to either renegotiate their loan or switch lenders within 2 years of completing the deal. For example, figures from Canada show that when it comes to renewals and refinancing, borrowers returned to their bank 67 percent of the time in contrast to just 33 percent for their mortgage broker.¹⁷ Any bank choosing to work with intermediaries should, therefore, consider how they can partner with brokers more closely, to ensure there are no weak links in the customer experience.

Striding ahead in the fight for home loan customers

Banks typically view the customer home loan journey as a series of steps beginning with a loan request and ending with drawdown of the loan and settlement. By reimagining this experience as a value chain centered around an individual/couple/family moving home, they can start to get under the skin of the customer.¹⁸ Internally, cross-functional customer experience teams should begin by understanding what triggers the thought processes of prospective customers, and how they can ensure that the bank is front of mind from the earliest stage.

The next step in the reimagination process is to articulate the customer's various needs at each stage of the extended value chain; e.g. dreaming of a home

(which includes a pre-research and a research phase), applying for a home loan and owning a home. The team can then generate ideas on how the bank (or its strategic partners) can best fulfill these needs and satisfy all six customer experience pillars. Examples could include innovations like facial recognition technology to identify the customer (currently under trial by a company called #ashching), or offering preferred rates with removal companies as a value-adding service (part of USAA's proposition to its home loan customers in the US).

A bank may find it easy to generate numerous innovative ideas for delivering greater value to customers looking to move home or acquire a new property. But it also needs a systematic process for narrowing this list down, along with the capabilities to rapidly develop and test ideas — to decide which to choose and which to disregard.

Creating a great customer experience is not a one-off exercise. The ultimate goal is a repeatable system for identifying unmet customer needs, producing exciting, distinctive ways to better satisfy these needs, and creating an agile environment that encourages experimentation and quickly brings feasible solutions to market. Banks that master this discipline are the ones that should ultimately win the battle for home loan customers. But the demand for responsible lending means that any efforts to deliver an outstanding customer experience must conform to ever-changing regulatory requirements. ■

Contributors

Geoff Rush

Partner

KPMG Australia

T: +61 3 9838 4958

E: grush@kpmg.com.au

Geoff is a Financial Services Partner in KPMG Australia's Management Consulting practice based in Melbourne. Geoff works with leading retail banks around the world to reimagine their customers' experiences and implement changes that improve engagement and drive top and bottom line performance.

David Bolton

Partner

KPMG in Canada

T: +1 416 777 3877

E: dbolton@kpmg.ca

David is an Advisory Services Partner with KPMG in Canada's Financial Services practice and a member of KPMG's Global Fintech network. He has over 30 years of process improvement and operations transformation experience across major North American and global financial institutions.

Chris Monaghan

Partner

KPMG in the UK

T: +44 20 7694 5008

E: chris.monaghan@kpmg.co.uk

Chris is a Banking Partner with KPMG in the UK. He focuses on HSBC and retail transformation. In addition to his 5 years with KPMG, Chris has previous experience at RBS and Lloyds Banking Group.

¹⁷ The Annual State of the Residential Mortgage Market, Mortgage Professionals Canada, December 2016.

¹⁸ We prefer the expression 'moving home' over 'obtaining a home loan' or 'applying for a home loan' to describe the end-to-end customer experience as it encourages design teams to think more broadly and extend the value chain both upstream and downstream.

The transformative power of regtech

By **John Ivanoski**, KPMG in the US
By **Deborah Bailey**, KPMG in the US
By **Mike Walters**, KPMG in the UK
By **Jyoti Vazirani**, KPMG China



John Ivanoski



Deborah Bailey



Mike Walters



Jyoti Vazirani

Change is in the air. Following years in which the focus in the financial services industry has been on cost containment and managing the impact of new regulations, firms are now turning their attention back to strategic growth. Acquisitions and new product development initiatives are once again priorities, while a renewed focus on customer service delivery and client acquisition are set to fuel renewed growth strategies. Yet, as the environment continues its rapid pace of change, effective management of ongoing regulatory impacts and reducing compliance costs remain top-of-mind. In many cases, organizations are looking to regulatory technology (regtech) to help meet these disparate business goals.

While software solutions have long been used to address regulatory requirements, rising compliance costs due to the new regulations implemented over the past 8 years have driven the industry to seek newer, more powerful solutions.

"In recent years, we have seen the cost of regulatory compliance increase steeply," says John Ivanoski, Global Lead of Regtech at KPMG International. "Current estimates put compliance spend at more than US\$70 billion in the US alone — and that number will only increase. The industry has to respond."

Enter regtech. Whereas previous technologies delivered according to specified requirements, agility is at the heart of regtech solutions. This means that not only are regtech solutions able to adapt to the needs of an ever-changing regulatory environment, the technologies, once integrated into a business' processes, are able to deliver against a broader range of business challenges. For example, the robotics process automation (RPA) that provides the capability to deliver real-time compliance and automated reporting can also provide the agility needed to help respond to competitive pressures in the marketplace, deliver a better customer experience and achieve greater consumer protection.

As a result, regtech is uniquely positioned to assist companies to not only control costs and manage regulatory requirements, but also to address other critical areas that can help improve customer service, develop new offerings and achieve greater competitive differentiation.

Making the most of business data

One area where regtech is well positioned to help accelerate growth goals is in drawing meaningful, actionable information from masses of data. The financial services industry has long looked for more efficient and effective ways to achieve full value from 'big data', such as customer information, risk and financial data, operational information, and more. However, despite the considerable value that can be gleaned from these sources, the safe and practical use, storage and management of this data has long been a challenge. Additional risks from possible cyber attacks, non-compliance with regulatory obligations, and the impact of human bias in data management have further hindered such efforts.

Regtech solutions take another approach: instead of a 'big data' mind-set, regtech promotes 'smart data'. By using new technologies such as cognitive computing and machine learning, regtech solutions can more effectively structure and find meaningful patterns in the volumes of accessible data. Significant impacts in this area include the ability to gain better insights into regulatory practices, automating complex reporting, conducting

meaningful analyses of critical compliance risk areas, and creating an end-to-end view of compliance, reporting and data.

However, once enabled, the benefits of using a cognitive system in business processes reach far beyond regulatory compliance and reporting. With the cognitive technologies used to process both the structured and unstructured data (such as the contents of proprietary systems and shared information from online sources, customers and the Internet of Things), financial services firms are better enabled to 'unlock' the vast potential inherent in their data stores. For example, firms can perform more detailed and effective customer and counterparty credit analyses and underwriting of small business loans.

Provided that data security and cyber attack countermeasures are kept as priorities, there is also considerable potential in this area to use this data and the patterns it holds to achieve greater competitive advantage. "The quality of the information used as a foundation for business decisions is a critical concern for today's CEOs," says John Ivanoski. "With a cognitive system to find and confirm meaningful patterns in an ocean of data, CEOs can be confident in the validity of actionable information and respond more swiftly to market changes and opportunities." Businesses are already taking note. Current research shows that 85 percent of CEOs recognize the importance of integrating automated business processes with artificial intelligence (AI) and cognitive processes.

Regtech supporting innovation

Many discussions of the importance of regtech focus on its ability to answer immediate business needs, drive operational efficiencies and reduce costs in regulatory compliance and risk management. Regtech firms, regulators and financial services firms alike are focused on finding ways to use new and evolving technologies to solve regulatory challenges; and areas such as regulatory compliance transformation, automation of complex reporting, risk monitoring and analytics, and automation of risk management are obvious points of focus. However, the implications and benefits of the technologies harnessed by regtech goes far beyond regulatory applications.



Current estimates put compliance spend at more than US\$70 billion in the US alone — and that number will only increase. The industry has to respond.



— John Ivanoski



The costs associated with the implementation and use of such technologies should not be applied only against time/cost savings and risk reduction from regulatory compliance, but also to the other benefits achieved through technological advances across the business.



While many financial services firms are already investing in substantial legacy system transformations, regtech solutions implemented in key areas can have a further transformative impact on an organization's technological readiness. The same solutions that deliver key regulatory impacts can also be used to support back-office transformation, deliver improved customer service experience, advance new product development, and more. Thus, the costs associated with the implementation and use of such technologies should not be applied only against time/cost savings and risk reduction from regulatory compliance, but also to the other benefits achieved through technological advances across the business.

A few key impact areas might include:

- **Enhancing the customer experience.** As customer experience is an increasingly critical component to attracting and retaining customers, as well as in deepening the customer relationship, regtech solutions are offering additional capabilities to help on this front. Technology such as natural language and robotics processing, used in automating core business processes, can be used to deliver real-time customer service interactions; while automated fraud prevention and detection, consumer protection laws, anti-money laundering and know your customer (KYC) can reduce customer wait times.
- **Reducing head count spend.** Through automation of key functions, financial services firms can not only improve compliance through the reduction in human error and bias in fundamental processes, but also reduce compliance-related head count spend. Firms can then reallocate compliance resources or use fewer, more highly skilled resources to analyze and use critical

judgment to assess the outputs of machine reporting.

- **Reducing reliance on third-party service providers.** Automation of customer service and back-office automation to address customer needs can, in turn, further address risk by reducing reliance on low-cost outsourced service providers. This means that, in addition to delivering a more consistent, on-brand customer experience, firms can manage and reduce security risks and other vulnerabilities stemming from use of third-party service firms.
- **Transforming labor strategies.** Use of digital labor solutions to onshore functions allows for significant transformation in enterprise labor strategies, which can not only potentially reduce sourcing cost but also mitigate sourcing risk. For example, global firms impacted by the UK's Brexit vote might leverage digital labor solutions to provide relief to more restrictive passporting rights, while US firms might use these solutions to enable rapid implementation of components of the new administration's proposed corporate income tax reform.

Taking next steps

As with the integration of any technology, care and foresight is required to understand the optimal path forward. When exploring which regtech solutions or service providers provide a best fit for business needs, financial services firms should consider the following:

1. **Assess current state.** Review the legacy, current and emerging technologies already at use within the firm, and understand any limitations. Give special attention to critical interdependencies across the three lines of defense.

2. **Understand your options.** Firms have the option to build, buy or partner with an external regtech or fintech provider in order to meet specified needs. Existing partnerships can be beneficial, but be sure not to limit options early on. Also be aware of the rapidly changing pace of the market — new options are emerging all the time.

3. **Look for immediate wins.** Many regtech solutions can be quickly implemented into current systems. This provides the power to swiftly target specific challenges, whether in an end-to-end process or at identified points in the value chain.

4. **Assess and address additional risk factors.** Any process transformation — especially one that involves technology — can open the door to unintended risks or exacerbate existing points of weakness. As such,

firms must not only review risk factors such as data- and cyber-security measures and algorithmic biases, but also assess risks associated with the change process itself. Firms should embed risk and compliance frameworks up front in the design phase of regtech initiatives, and revisit their effectiveness throughout the program life cycle.

The benefits that regtech can bring are clear: not only can these technologies help streamline, simplify and optimize the business processes required to meet regulatory standards and reduce associated costs, but they can also provide critical support for business growth, improve customer service delivery and help accelerate speed to market. As a result, financial services organizations that embrace these technologies now may be uniquely positioned to gain competitive advantage in the years to come. ■

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Contributors

John Ivanoski Partner and Global Head of Financial Services Regtech

KPMG International

T: +1 212 954 2484

E: jivanoski@kpmg.com

John is a partner in KPMG's Financial Risk Management practice, Global Head of Financial Services Regtech and Global Lead Partner for Morgan Stanley. John has over 25 years' experience providing audit and advisory services to global financial services organizations.

Deborah Bailey Managing Director and US Lead of Financial Services Regtech

KPMG in the US

T: +1 212 954 8097

E: dpbailey@kpmg.com

Deborah is a Managing Director in KPMG's Financial Services Regulatory Practice and leads Financial Services Regtech for the US. Deborah has more than 35 years' experience as a regulator in the supervision of large, complex banking organizations including the US operations of foreign banks.

Mike Walters Partner and European Lead of Financial Services Regtech

KPMG in the UK

T: +44 20 7694 4987

E: mike.walters@kpmg.co.uk

Mike is a partner and European Lead of KPMG's Financial Services Regtech practice. He has over 25 years' experience delivering financial risk management work, including as a partner in another Big 4 firm, as a secondee to the enforcement departments of regulators and as the Group Head of Compliance at Barclays.

Jyoti Vazirani Partner and China/Hong Kong Lead of Financial Services Regtech

KPMG China

T: +852 2685 7331

E: jyoti.vazirani@kpmg.com

Jyoti is Head of Financial Risk Management and Lead of Financial Services Regtech for KPMG China/Hong Kong. She has over 20 years' experience working with global financial services organizations in the US, Europe and Asia.

Governments' role in the evolution of fintech

By **Ian Pollari**, KPMG International



Ian Pollari

Governments globally are recognizing the emergence of financial technology (fintech) as a means to deliver social and economics outcome more effectively and efficiently.

To some, governments seem to be allowing fintech startups free rein while saddling traditional financial services with ever-increasing regulatory burdens. To others, government support is necessary for the healthy development of the fintech sector, which can potentially revolutionize financial services products, services and delivery mechanisms worldwide, as well as deliver social and economic outcomes more effectively and efficiently.

How can governments strike the right balance — and how can fintech and financial services industry players alike shape this ongoing conversation?

Divergent approaches with a common goal

Looking at developments worldwide, it is clear that there is no consensus on how or where government support should play into the evolution of the fintech sector and, in turn, its role more broadly within the financial services industry and national economy. For example, the UK government has focused on supporting the fintech sector through financial incentives such as grants and tax incentives, including a recently announced £2 billion government investment in businesses conducting technology research and development. In Singapore, the Monetary Authority of Singapore (MAS) established a dedicated fintech office with funding from across government entities to drive the

development and promotion of Singapore as a fintech hub, and has recently announced the easing of regulations surrounding venture capital investment in early-stage startups.

Not only do different governments have divergent views on the proper role of legislation and regulation with regard to fintech innovation, but considerable points of divergence can even be seen between some countries' federal regulations and those applied at the state, province or territory level. This is particularly evident in the US, where the complexity, lack of regulatory uniformity across states and varying state legislation can pose significant roadblocks for fintech companies. States like California and New York are strong fintech hubs due to loan programs, tax credits, grants and more, while many other states lag behind.

Variations in countries' approaches to policy and regulation will always exist; however, the current diversity in approach may speak more to uncertainty surrounding the impacts and implications of new technologies than it does to differences in political ideology. Regardless, it is clear that governments internationally believe that fintech is key to the future of the financial services industry, and that their support is necessary to guide the sector's development for the good of consumers, businesses and the global economy.

Government motivations in supporting fintech

At its most basic level, the role of the industry remains the same, regardless of the presence of new technologies: to provide access to necessary financial services to individuals, businesses and other organizations. Yet, while the core goals remain the same, the mechanisms by which these goals may be achieved are undergoing significant transformation. Governments are now asking the same questions that are on the minds of many financial services executives: What are the risks and benefits of these technologies, and how can we embrace and encourage change without courting disaster?

By supporting and promoting fintech, governments are broadly looking to achieve four core goals:

1. Increase financial inclusion and access.

Fintech provides new opportunities to expand the reach of financial services to the un/under-banked and the un/under-insured, with potentially substantially positive impacts for the public good. In developing markets, fintech can provide the mechanism by which millions or even billions of people can gain safe access to basic financial services, especially in remote areas. In developed markets where access is less of an issue, fintech solutions can provide financial services institutions with a greater wealth of data that can, for example, allow a bank to underwrite credit to an individual who lacks a sufficient traditional credit profile.

2. Improve efficiency.

Governments must ensure that the country's financial system is efficient and sufficiently robust, which makes enabling technologies and solutions such as real-time payments, open application programming interfaces and blockchain especially appealing.

In addition, efficiency gains will increasingly require greater levels of public and private sector collaboration. For example, regulators working with industry participants and fintech companies to pilot KYC (know your customer) utilities in their effort to remove a major inefficiency in current practices.

3. Stimulate competition.

Healthy competition is always a motivating factor, and it is clear that new fintech players in the market are already a driving force for competitive change. One area where governments' impacts can be seen is through the authorization and bank licensing processes for new entities. For example, regulators and policy makers in the UK and Germany have been assisting fintech startups to obtain banking licenses, supporting the rise of a number of so-called 'challenger'



In developed markets where access is less of an issue, fintech solutions can provide financial services institutions with a greater wealth of data that can, for example, allow a bank to underwrite credit to an individual who lacks a sufficient traditional credit profile.





Much of government activity worldwide is understandably focused on modifying existing regulatory frameworks and enacting new legislation where there are acknowledged gaps or shortcomings.



banks, many of which are mobile-only entities. Other directives, such as the EU's second payment services directive (PSD2), also fit under this broad umbrella.

4. **Ensure stability.** Finally, governments wish to ensure the stability of the financial services system as a whole by managing any emerging bubbles and potential systems risk areas. In relation to fintech and the disruption it poses to the industry, this goal can initially seem counterintuitive; however, fintech's potential to foresee larger, systemic risk areas through cognitive systems and artificial intelligence (AI) outweighs the effect of short-term industry disruption. Core areas of government interest in this regard include using technology to gain a clearer line of sight on emerging risk areas surrounding conduct, credit, residential mortgages, and more, as well as providing access to tools and techniques that will allow better management of that risk or more efficient means to comply with regulatory obligations (a subset of fintech referred to as regtech).

Turning goals into action

In working to achieve these goals, much of government activity worldwide is understandably focused on modifying existing regulatory frameworks and enacting new legislation where there are acknowledged gaps or shortcomings. This can range from providing class exemptions and introducing new regulations such as PSD2, to providing guidance around areas such as data management, blockchain and robo-advice.

Yet changes to policy and regulation only come following periods of learning and consultation. To support this activity, government actions can be broadly described by the 'three Es':

1. **Engage.** Engagement with both the fintech startup community and the broader financial services community is essential to develop an understanding of current trends, use and risks of emerging technologies, and other

developments. Core government engagement activities include setting up digital innovation hubs and forming advisory committees. Some government representatives are also taking less formal approaches, including attending meet-ups and visiting fintech accelerators to expose themselves first-hand to these industry developments.

2. **Educate.** Understanding the complex issues surrounding the fintech sector and the technologies that drive it is critical to being able to create effective regulations and good fiscal policy. Building on the 'engagement' activities above, governments are also actively working to better educate themselves on the complexities of this rapidly changing industry. Such actions can include talking to other government entities within the country, as well as internationally; conducting research; and speaking to industry experts.

3. **Experiment.** Given the potential impacts and consequences of certain changes, safe experimentation is important to maintaining stability during a period of rapid change. This is why governments are frequently seen doing things like setting up sandboxes and running hackathons. In some places, like Australia, sandboxes are only made available to startups, whereas in countries like Canada and Singapore, sandboxes are open to all industry players. Such actions can thus also work as a litmus test for the government's perceived role in the development of the fintech sector in the local market.

Governments may also consider how they can experiment and affect changes to policy in a more accelerated time frame than traditionally the case, helping to test and learn themselves.

Outside of regulation, government actions designed to attract capital — such as attractive taxation policies and providing access to government grants — can also have a significant

impact on fintech's development. For example, Singapore recently announced a number of new incentives specifically designed to attract venture capital (VC) investment into their local technology ecosystem, including fintech VC support.

In addition, policies surrounding the mobility of talent and attracting skills through work visas can also help or hinder local entrepreneurial activity. As an example, passporting, visas and the availability of talent to support technology and financial services companies in the UK and the US have been areas of growing concern since Brexit in the UK and the new Trump administration came into office in the US.

Finally, governments themselves are large procurers of technology capabilities and there are opportunities for them to engage with fintech companies to help government in areas such as data and analytics, digital identity, payments and transactional banking. More progressive governments will be opening up data, in a safe and controlled manner, for startups to innovate and create new forms of value.

Shaping the conversation

Government influence is an important factor in the financial services industry. However, while legislative and regulatory change is needed not only to support and promote fintech but for the health

of the industry as a whole, some would argue that this support can go too far, providing fintech startups with an unfair competitive advantage.

A careful balance must be struck, with regulations providing necessary protections and encouraging startup innovation without hindering the development of traditional institutions' products, services and platforms. This is why the input and feedback of all industry players is critical during this time of change. Active engagement with government, whether through formal feedback mechanisms such as advisory committees or more ad hoc opportunities and conversations, can help shape the future of the industry for the benefit of all stakeholders.

Unlike VC investors, government's involvement in fintech or any industry shouldn't be in 'picking winners' or backing particular ideas. Rather, government should work to promote both startups and established entities within the sector, help to invest in education and research, enable appropriate infrastructure and explore opportunities for engaging fintech companies themselves. The insight, guidance and feedback of industry specialists is key to achieving these goals. ■

Contributors

Ian Pollari

Global Co-leader, KPMG Fintech practice

KPMG International

T: +61 2 9335 8408

E: ipollari@kpmg.com.au

Ian is the Head of KPMG's Banking Sector in Australia and the Global Co-lead for KPMG's Fintech practice. Ian has over 16 years' experience servicing clients in the financial services industry and brings knowledge and insights into the experiences of local and international banks, payment providers and fintech startups in areas such as strategy development, market entry and digital innovation.



A careful balance must be struck, with regulations providing necessary protections and encouraging startup innovation without hindering the development of traditional institutions' products, services and platforms. ”

Making automation work

Insurers adopt digital labor

By **Lisa Heneghan**, KPMG International
By **Gary Plotkin**, KPMG in the US



Lisa Heneghan



Gary Plotkin

Even with significant investment towards automation, most insurers are still facing challenges moving from pilot to profit on their investments. Many are struggling to come up with a strategic, enterprise-wide approach to automation.

Our experience working with leading insurers suggests that creating the right digital labor strategy is an important enabler to transforming the enterprise. And our work suggests there are clear factors that drive success in formulating and executing a digital labor strategy in the insurance sector.

As insurers rapidly become more digitally enabled, many are starting to think much more strategically about how they use 'digital labor' to drive their

transformation strategies and achieve their long-term objectives. Activity (and investment) has been feverish.

Some insurers have been incubating their own concepts for digital labor in their digital garages and venture capital units. Others have been talking with new insurtech startups and creating partnerships to explore and exploit new technologies. Many are simply hoping that their business process outsourcing providers will continue to innovate and introduce new digital labor concepts as they are commercialized.

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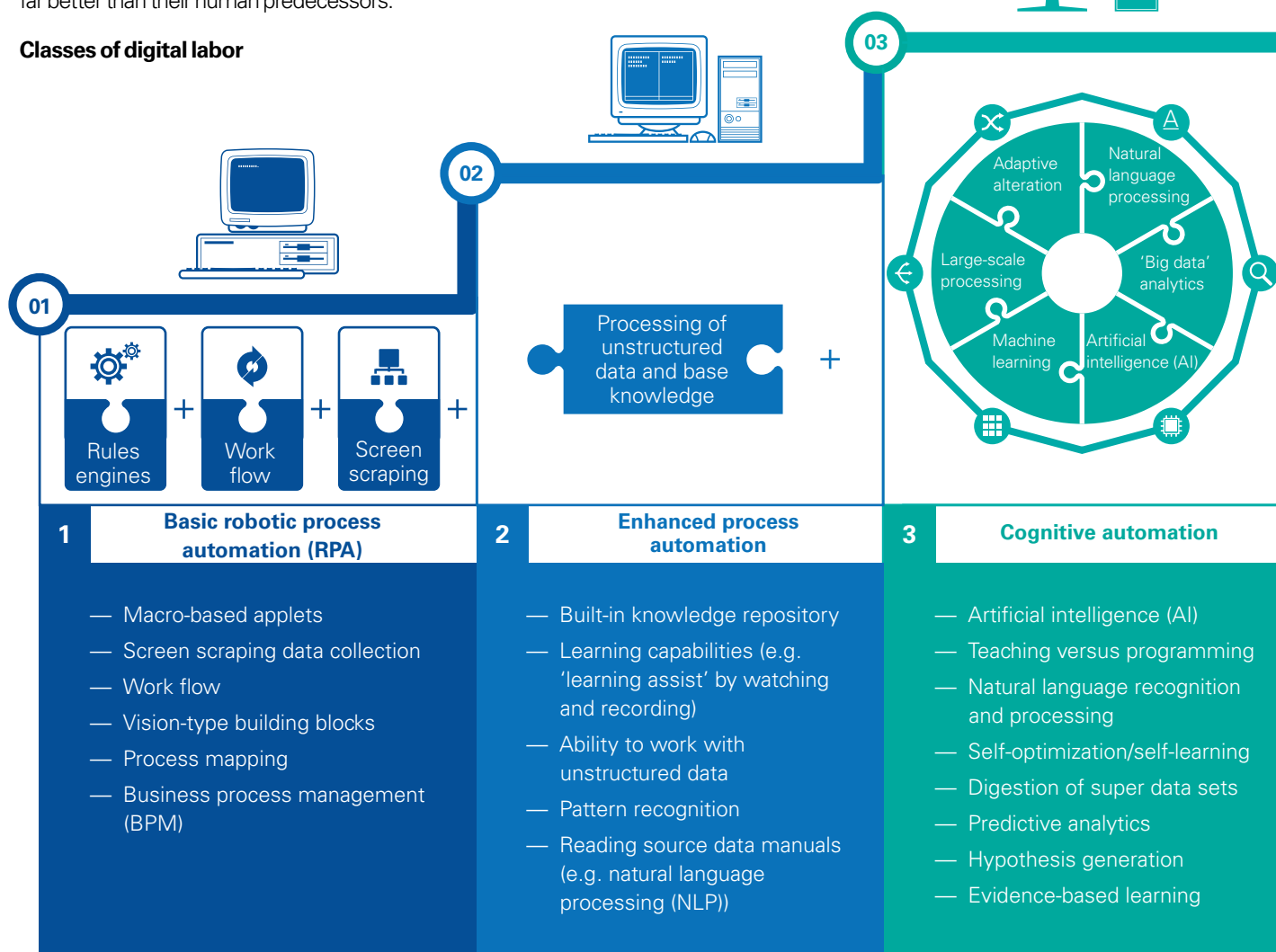
Digital labor has the ability to unlock unprecedented levels of productivity, agility, confidence and competitive advantage.

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What is digital labor?

When we talk about 'digital labor', we are broadly referring to the automation of labor by leveraging digital technologies to augment, or automate the tasks undertaken by knowledge workers in your business. This extends from simple robotic automation through to machine learning and cognitive automation. The spectrum of potential 'digital labor' use cases can be very broad — ranging from automating simple swivel-chair activities such as cutting and pasting content from one system to another, right up through cognitive solutions (software that can think and reason) performing activities (e.g. business, medical, legal) previously performed exclusively by humans — and often performing these activities far better than their human predecessors.

Classes of digital labor



Source: KPMG in the US, 2016

Taking the first steps

Progress has also been encouraging. Almost every insurer we work with already has some type of robotics pilot project or automation initiative under way in one or, more often, multiple parts of the organization. Many have already automated some of their more routine processes, particularly in the finance function. Most are now trialing more sophisticated robotics techniques deeper in the organization.

Recent research also suggests that insurance CEOs expect digital labor to start to make an impact on their operating models almost immediately. In fact, almost a third of insurance CEOs say it is extremely likely that 5 percent or more of their technology workforce will be replaced through automation within the next 3 years.¹

However, most efforts to introduce digital labor within the insurance sector have largely been focused on RPA;

basically using robots (or, more accurately, algorithms) to speed up processes that had often already been automated. RPA reduces errors, improves processing time and encourages digitization by 30–40 percent and, therefore, is a great first step towards the adoption of digital labor. But insurers will need to become more sophisticated about their use of digital labor if they hope to drive real transformation and competitive advantage.

¹ Source: KPMG CEO Outlook Survey, 2016

Five big digital labor questions for insurers

Development phase

1. Do you have clear executive sponsorship for the initiative?
2. Have you considered the impact on your organizational structure and culture?
3. Do you have a well-defined plan and strategy for labor automation across your enterprise?
4. Have you developed a strong approach to the governance?
5. Do you have basic consensus on security and risk mitigation?

Commercialization phase

1. Are your investments aligned to the organization's appetite and expectations?
2. Do you understand the key drivers and characteristics of each class of digital labor you are using?
3. Do you have a formalized approach for identifying and prioritizing automation initiatives?
4. Have you assessed opportunities for accelerating the path to value?
5. Do you know when to declare success or failure and move on to the next initiative?

Cognitive competition

Here, too, competition is heating up. Enabled by newer technologies such as machine learning and natural language processing, some of the leading insurers are starting to develop new cognitive capabilities that could usher in a new era of productivity and customer-centricity. They are letting their bots watch their actuaries as they make their decisions; they are feeding them warehouses of historical data and decision records; and then they are starting to let them make key decisions in areas such as specialty commercial policy renewals and personal line claims approvals.

Interestingly, the leaders are the ones that recognize that — rather than delivering value through cost savings and head count reductions — the real value of digital labor actually comes from its ability to unlock unprecedented levels of productivity, organizational agility, confidence and competitive advantage. And that will allow some insurers (particularly larger, traditional ones) to operate and compete on a more level footing with their nimbler startup rivals not only in terms of cost, but also in terms of customer responsiveness and experience.

Now where?

The problem, however, is that few insurers know exactly how to move forward from here. The vast majority are struggling to take their pilot projects

into full-scale production in a way that is meaningful to the business. Value-generating ideas and capabilities from one part of the organization are not being shared with other parts of the enterprise. And duplication is rampant. As a result, few insurers have any real road map to help guide their digital labor strategy.

Many also face significant capability challenges. Internally, few have the resources, skills or talent to drive forward an enterprise-wide digital labor strategy, let alone the underlying supporting IT architecture. And while the external vendor environment is certainly evolving, knitting together the right combination of solutions to enable the business is still highly complex. Few insurers want to play the technology developer/integrator role. Most would much rather focus on improving their core business.

It is perhaps not surprising, therefore, that almost every (91 percent) insurance CEO surveyed by KPMG International said they were concerned about the challenge of integrating automation with AI and cognitive computing.²

Creating a winning environment

We have worked with a number of traditional insurers to develop and execute their enterprise-wide digital labor strategy. And we witnessed some significant

achievements and some unexpected failures; both offer useful lessons for insurers. Based on our experience, we have identified five success factors that are shared by many leading digital insurers.

1. **They see the big picture.** They take the time to fully understand how digital labor will apply across the organization; looking at their end-to-end processes first, they identify the interdependencies and then they maximize the synergies. They think about more than just a single technology or solution set, focusing instead on developing the big picture and assessing the opportunities and impacts that emerge. They prioritize the investments that will deliver maximum value across the organization, rather than coddling pet projects or hot technologies. And, as a result, they approach initiatives and implementations with a much clearer view of how their strategy will deliver value. Interestingly, some of the most impactful initiatives are those being led by CFOs who tend to both hold the purse strings and see the 'bigger picture'.
2. **They apply a change management approach.** Leading insurers recognize that the introduction of digital labor will represent a massive change for the organization. And they are therefore putting significant investment into understanding and responding to the impacts of digital labor on the existing organization. From updating and reinforcing a new 'digital first' culture through to helping traditional employees to embrace new ways of working and recognizing development opportunities linked to this. Leading insurers are leveraging their best change management capabilities to ensure that their digital labor investments are being fully utilized.
3. **They think globally and act locally.** Leading insurers recognize that key capabilities and processes related to digital labor must be centralized in order to maximize their value and extend their reach. They understand and respond to their local markets, but also see the larger opportunity

² Source: CEO survey, 2016

in leveraging global scale and commercializing local ideas. Many are already creating Centers of Excellence within key functions and geographies. The more advanced are then developing global/group Centers of Excellence to add consistency, improve oversight and identify synergies. At the same time, they are also providing the business with the right amount of flexibility to create and drive their own solutions within the context of the broader enterprise strategy.

4. They create the right governance.

Rather than restricting the development of digital labor, the leaders are encouraging the business by creating the right governance structures and guidance. At times, they are acting as the group aggregator, maintaining and communicating a detailed inventory of the related projects and investments at play across the organization. In other cases, they are working to ensure the right ownership and controls are in place to reduce organizational risk, improve coordination and enhance compliance. The leaders are the ones that know what is happening in the organization and encourage the right behaviors to manage their risk.

5. They measure and monitor the benefits.

They know what they want to achieve from their investments — both in the short and the long term — and they set reasonable objectives that go beyond the traditional short-term return expectations to include a broader basket of strategic measures. Then, they continuously measure

and monitor the outcomes of their digital labor initiatives to uncover new opportunities and learn new lessons that can be applied across the organization. They do not allow projects to drift and are willing to cut initiatives that are not delivering on expectations or no longer match the strategic vision of the organization.

A better way?

Of course, there is another approach to building your digital labor force: you could always outsource it. Indeed, we've been working with a number of insurers (both smaller firms lacking the time or resources and larger players keen to focus on their core business) to deliver a managed services approach to the development and execution of their digital labor strategy. As with any form of outsourcing, it is critical to understand the art of the possible and identify how you want to leverage digital labor to best effect. You can then map this to a sourcing strategy, identify the right vendors, integrate their solutions and prepare for wider adoption of digital labor. Given the immaturity of the technology space, many insurers are relying on their sourcing partner to protect them from the shifting vendor landscape and the speed at which new capabilities are being introduced.

Our experience suggests that — regardless of the level of outside support you require — the adoption of digital labor will be key to driving value from digital transformation investments. Those insurers that take a well-planned and strategic approach to their digital labor strategy will be the winners in this new environment. ■

Contributors

Lisa Heneghan Global Head of CIO Advisory

KPMG International

T: +44 20 7311 3953

E: lisa.heneghan@kpmg.co.uk

Lisa is a partner in KPMG's Management Consulting Business in the UK and leads the CIO Advisory Group. Lisa has more than 20 years of experience across technology having worked for major technology providers prior to her consulting career. As such, Lisa has experience across all elements of technology from software, through servers, storage and networks. Lisa has worked with a broad range of industries but, in recent years, has spent most of her time in Financial Services.

Gary Plotkin Principal

KPMG in the US

T: +1 617 988 1181

E: gplotkin@kpmg.com

A member of the Technology Advisory Services practice for Financial Services focusing on insurance clients, Gary has 24 years' experience specializing in business and IT transformation work. He has a strong background across the full life cycle of strategy and project delivery, including software development, implementation and transformation initiatives.

Case study: Putting automation to work in the claims payment process

Recognizing the connection between improved internal processes and customer satisfaction, the executive team of one large multilateral global insurer wanted to explore how they might leverage predictive analytics and automation to help streamline their claims payment process. The leadership had a lofty goal: to reduce the total time to pay from 30 days to just 15 minutes.

The organization began by identifying the key data factors underpinning the process and, after collecting and processing the structured and unstructured data, developed a proof of concept that used new machine learning algorithms to achieve their goal.

The initiative has been a tremendous success, delivering potential savings of

almost 50 percent of the cost of claims processing, improved consistency within the process and creating better global cohesion. More importantly, the initiative has helped deliver dramatic improvements in customer experience at a critical 'moment of truth', enabling better interactions driven by the right people asking the right questions at the right time.

Insurers are on the road to strategy-aligned deal-making

Ram Menon, KPMG in the US



Ram Menon

The insurance industry is rapidly evolving. Disruption is everywhere. The pressure to transform is immense.

Not surprisingly, deal activity in the sector is expected to rise. In fact, in a recent survey of decision-makers at more than 200 insurance organizations around the world, we found that 84 percent of firms think they will undertake one to three acquisitions over the coming year, while 94 percent plan at least one divestiture.

Insurers also believe that deal-making will be key to achieving their transformation objectives. Indeed, the same survey found that the desire to transform the business and operating model is the number one motivator for deal-making: 33 percent of firms said they intend to undertake mergers and acquisitions (M&A) to redefine their business and operating model, while 40 percent intend to enter partnerships and alliances.

But, at the same time, industry players are also becoming more strategic about inorganic growth initiatives; everyone

recognizes that the traditional reactive approaches to M&A opportunities are no longer sufficient in today's environment.

A strategy-aligned approach is emerging

By taking a strategy-aligned M&A approach, insurers are hoping to enhance strategic clarity about which markets, geographies, products and channels they should 'play in' going forward. And that helps them decide which processes, technology infrastructure, talent and culture will best support transformation of the operating model for future growth.

However, non-traditional approaches require non-traditional capabilities. And that means that insurers will need to improve their holistic data and analytics-enabled deal-evaluation capabilities, particularly regarding due diligence, integration and separation activities, in order to extract maximum value from their proposed acquisitions.

Insurance decision-makers certainly understand that strategy-aligned M&A will require a different mind-set and a renewed focus on execution: 39 percent of firms said aligning their deal evaluation process to corporate strategy objectives is the key factor for M&A success.

But it is also clear that there is more work to be done. Many organizations surveyed admitted that their corporate development and M&A teams' objectives were not fully aligned to their overall corporate strategy. Many respondents also admitted that their M&A priorities continue to be 'reactive' to market opportunities, as opposed to targeting deals strategically aligned to overall corporate strategy.

No better time for an M&A 'playbook'

What can insurance leaders do to improve the transformative value they receive from their M&A deals? One of the first steps insurers may want to consider is the development of an enterprise-wide M&A 'playbook' to enhance and deepen their evaluation of the strategic fit a potential acquisition target offers. To improve deal outcomes over the long term, the playbook would need to cover all aspects of M&A activity, including due diligence, deal evaluation and post-deal integration/separation processes.

Others are taking a more strategic approach by focusing their efforts on partnerships and alliances. In fact, respondents in our survey told us that partnerships are the clear choice for transforming the business model: 87 percent of organizations expect to partner for gaining access to new operating capabilities, and 76 percent are looking to partnerships to help improve access to new technology infrastructure.

Asia-Pacific is expected to see the most partnerships and alliances forged, with China and India ranking as the top two destinations in the region. The majority of the respondents also said they intend to forge strategic partnerships and

alliances with larger firms — those with values ranging from US\$250 million to US\$1 billion.

To stay abreast of emerging trends in technological innovation, several insurance companies have already established (or are considering establishing) in-house corporate venture capital (CVC) investment capabilities, largely as a way to invest in innovative technology capabilities.

Among firms with established CVC models, the majority stated that their investment activities are focused on non-insurance technologies. While more than a quarter of insurers with CVC models boast more than US\$1 billion in allocations, 90 percent say the median value of their CVC investments ranged between US\$10 million and US\$50 million.

Seven steps to a strategy-aligned deal environment

1. Identify and prioritize the primary synergies of a deal, including the unique synergies that only your company can create
2. Identify targets with unique strategic fit and value creation potential
3. Conduct due diligence that is focused on the strategically relevant parts of the business
4. Value targets based on how they fit uniquely with your business (rather than just rely on average 'multiples')
5. Select an appropriate deal type and structure to realize your competitive strategy
6. Plan for an integration approach that will foster the unique synergies that you will create and achieve maximal value capture
7. Set in place post-transaction performance assessments that track value creation on an ongoing basis. ■

Trends shaping current and future deal-making

As insurers formulate their M&A strategies, we believe the following trends will shape deal activity:

- The hunt for innovation will increasingly shape insurers' rationale for doing deals. Companies with a strong digital model and startups with advanced technology will attract a multitude of willing suitors as legacy companies seek to transform their business models through acquisitions.
- Greater alignment of corporate strategy and M&A objectives will provide an edge to buyers as competition for deals rises. Strategy-aligned approach to M&A planning and execution will result in better deal outcomes over the long term compared to a 'reactive' approach of simply pursuing deal opportunities as they arise.
- Portfolio rationalization and strategic repositioning of businesses by larger insurers is expected to drive global M&A activity. Divestiture of non-core business segments in strategically non-core geographies is expected to be a key driver for increased deal activity.
- Cross-border activity will increase as insurers worldwide seek to diversify their geographic risks and earnings profits: with stagnation in global economic growth and changing geopolitical risks across the mature and emerging markets, insurers will look beyond their domestic borders to buy or sell assets abroad.

Contributors

Ram Menon

KPMG in the US

T: +1 212 954 3448

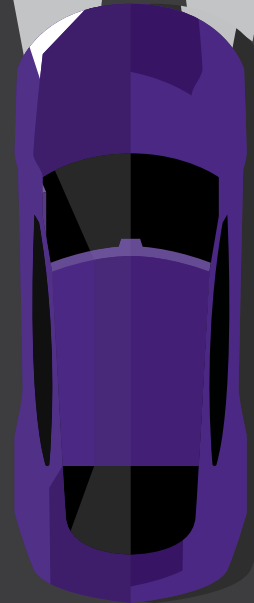
E: rammenon@kpmg.com

Ram leads KPMG's Global Insurance Deal Advisory practice as well as leading the US Deal Advisory practice. A Partner with KPMG's US member firm, he has extensive experience leading cross-border mergers, acquisitions and divestitures, and works with many Fortune 500 companies.

Making a strategic lane change

An interview with **Chris Wei, Aviva**

By **Chris Wei**, Global Chairman, Aviva Digital and Executive Chairman, Aviva Asia
By **Gary Reader**, Global Head of Insurance, KPMG International



Chris Wei



Gary Reader

A few of the most innovative insurers have already started to make dramatic shifts to progress their growth agenda. Aviva plc has been rapidly evolving its mergers and acquisitions (M&A) strategy to take advantage of the new opportunities in the marketplace. Recently, Gary Reader, Global Head of Insurance for KPMG International, sat down with Chris Wei, Global Chairman of Aviva Digital and Executive Chairman of Aviva Asia, to learn more about their strategic approach.

Gary Reader (GR): Aviva has been very clear about its intentions to transform into a digital and customer-focused organization. How is that emphasis influencing your M&A activities?

Chris Wei (CW): Our stance is changing dramatically. For one, the traditional bank/insurance relationship has been fundamentally de-emphasized. What we are looking for today are relationships

that go beyond simply leveraging bank networks to also help drive our vision around digital execution for financial services. I don't think the traditional big M&A distribution deals are going to drive our success in the future, but rather smart investments and partnerships that deliver brilliant customer experiences.

GR: Will partnerships be a bigger focus for Aviva moving forward?

CW: I think when partners share aligned interests, it can be hugely successful. Our partnership with Amazon in the UK, for example, allowed us to be the first UK insurer on the Alexa platform and helped us improve service delivery to our customers. At the same time, Amazon's cloud and infrastructure services have been very important to our growth in the UK, so there is a clear alignment of interests.

GR: Nobody has an unlimited investment budget. How do you prioritize and select your areas of focus for M&A and partnership activity?

CW: We have a few macro topics that we focus on — data and analytics and artificial intelligence, for example. More broadly, we are focused on creating a brilliant and frictionless customer experience. If the target is aligned to one of our priority areas of focus, can help us improve the customer experience and has a business model that is relevant for our business, it may be worth exploring. But we also recognize that we need to bring something to the table as well. The really good companies are not struggling to find financing; what they want is access to data, to customers and to deep industry experience.

GR: How has this shift towards partnerships and non-financial benefits influenced the traditional due diligence process for Aviva?

CW: It's certainly tough. If you value some of these opportunities, particularly the startups, from a pro forma perspective, you are likely going to be very, very wrong. It's almost a waste of time. You can't get too hung up on financials. We often look at other key metrics that influence the way they

engage customers or users. What is their customer proposition and are customers buying into it? Ultimately, it often comes down to experience and instinct. If you think it's too expensive, you need to walk away.

GR: Aviva Ventures has also been very active in the investment space, particularly for technology startups. Is the value proposition different with the venture arm?

CW: The ventures unit is really set up to focus on startups and the like, but it reports into our group M&A director so it is very much aligned to our overall strategy. But it's a different mind-set versus traditional M&A. Ventures often invests into really early stage companies, sometimes more as a way to access a technology or piece of intellectual property than anything else. And, we recognize that some of the investments simply aren't going to succeed. But where we do, the value is tremendous.

GR: In your opinion, how important has the creation of alignment between Aviva's M&A objectives and the corporations' overall strategy been?

CW: I think it's extremely important. Our very public strategy is 'digital first' and that translates throughout — into how we drive change and transformation; into how we align our investments and ventures; and into how we structure our new partnerships. The good news is that our board and group executive team are 100 percent behind the strategy and recognize the urgency. I think we're very aligned as an organization and the value of that alignment is being demonstrated in our results. ■

Contributors

Gary Reader Global Head of Insurance

KPMG International

T: +44 20 7694 4040

E: gary.reader@kpmg.co.uk

Appointed KPMG's Global Head of Insurance in 2014, Gary's career with KPMG has spanned over 30 years. Gary is responsible for supporting all efforts to maximize presence in the European and Global insurance marketplaces, identifying and closing advisory opportunities. His personal delivery experience lies in the area of financial management services, and having set up the financial management practice in the UK, he has led a number of financial transformation projects for our firms' insurance clients.

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The innovation imperative continues

Martin Blake, KPMG Australia
Tek Yew Chia, KPMG in Singapore
Murray Raisbeck, KPMG in the UK



Martin Blake



Tek Yew Chia



Murray Raisbeck

In today's technology-enabled world, the insurance industry is standing on the cusp of a major renaissance. Innovative technologies and business models are changing the way people think about insurance — giving rise to new products, services and opportunities to enhance customer value.

Investor interest in insurtech, the cutting-edge technologies helping to change the face of insurance, is exploding, and is poised for more growth in the year ahead.

For companies in the insurance industry, innovation is no longer a choice; it is an imperative. Consumers themselves are demanding better options. They recognize the new value they are receiving as a result of innovations in banking and other sectors, and they want their insurance providers to give them the same level of value and customization.

Companies that are unwilling or unable to embrace innovation as a means to respond to the demands of their customers will quickly become irrelevant.

The rapid rise of insurtech investment

Insurance companies have recognized the importance of innovation for the last several years. A reflection of the growing significance being placed on industry transformation has been the rapid rise in venture capital (VC) investment in insurtech globally, much of which has involved corporate investors.

In 2015, VC investment in insurtech was US\$590 million — a considerable sum compared to 2014's US\$404 million. In 2016, however, investment in insurtech skyrocketed, doubling the previous year's investment total to break the US\$1 billion mark by a significant margin.

As insurtech companies mature and show success, investments in insurtech will likely continue to grow, leading technologies to evolve even more rapidly. This will only put more pressure on insurance companies to either embrace innovation or find ways to take advantage of what other companies are doing.

Recognizing the opportunities presented by insurtech

In the banking sector, fintech innovation over the past few years has led somewhat to a dissolution of the banking value chain. Any number of technology startups have shorn off a part of the banking operations (e.g. payments, lending) and developed niche, tailored service offerings for either businesses or individual consumers.

The insurance industry is now facing a similar dissolution, with insurtech companies looking to unpack different areas of the insurance value chain in order to create business opportunities. Many traditional insurers recognize they need to up their game in order to respond to these challenges without losing market share. For these companies, one of the strongest opportunities presented by insurtech is the ability to disrupt and enhance the insurance business model; for example, by opening new channels for insurance products, by speeding up the claims processes or by providing mechanisms to tailor insurance products based on data analytics. Insurers willing to work with insurtech companies on these types of initiatives rather than seeing them simply as competition will be in the best position to respond to the rapid evolution of the industry.

Approaching insurtech investments and opportunities

Recognizing the value offered by insurtech companies and being able to take advantage of the opportunities they present are two very different issues. Each traditional insurance company needs to independently determine how best to approach insurtech given their unique circumstances and situation. As a starting point, companies should consider the following activities:

1. Define current problems

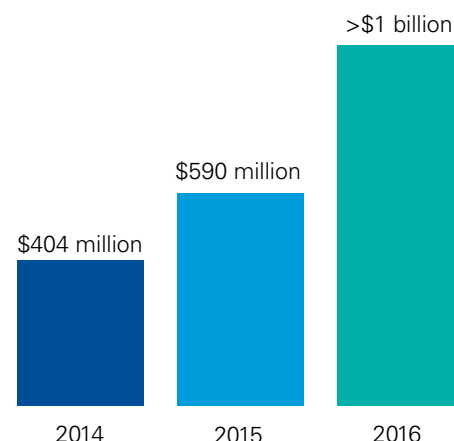
Too often, companies get caught up in an exciting new technology without looking at how that technology can help them. Before deciding which innovations to invest in, insurance companies should define the problems they want to resolve — whether that's reducing claims wait times, decreasing operating costs or providing more tailored insurance products. Identifying customer pain points and challenges can be a good place to start as resolution of these problems can have a positive resonating impact on an organization's entire operations.

2. Identify insurtech opportunities

Once the problems needing to be addressed have been defined, insurance companies can then approach identifying and working with insurtech companies in a number of ways. For companies with a well-defined problem, finding a company with a technology able to address that need may be the most effective solution — for example, by running an innovation challenge with a partner like Matchi to identify relevant insurtech solutions.

For companies with a more complex or series of problems to address, developing an in-house innovation lab (i.e. digital garage) can be a good way to help foster innovative solutions. In this model, a traditional insurer would foster the growth of a group of insurtech companies while having them work on solving their specific business

VC investment in insurtech



Source: Pulse of Fintech Q4 '16: Global Analysis of Investment in Fintech. KPMG International



Before deciding which innovations to invest in, insurance companies should define the problems they want to resolve.





As part of their innovation approach, insurers need to examine their ability to integrate technologies obtained from insurtech companies within their operations.



challenges. A number of these labs already exist in the insurance sector, including Met Life's LumenLab in Singapore — which focuses on driving insight-driven solutions, and Allianz's Data Lab — which focuses on harnessing digital innovations and advanced analytics. Aviva also hosts a digital garage to support collaboration and innovation between commercial teams and creative designers. For this model to be effective, the role and relationship of innovation relative to the strategy of the group, core functions of the organization and any transformation programs would need to be well established.

3. Address integration challenges

Regardless of how traditional insurers go about identifying or developing innovative technologies, they need to also remember that technology is only as good as their ability to implement it effectively. As part of their innovation approach, insurers need to examine their ability to integrate technologies obtained from insurtech companies within their operations. This might include evaluating the innovation culture of the organization in addition to any technology barriers that would affect changes from being implemented. Companies can then use this information to design a better road map for change so that innovations are not created in a vacuum without the ability to properly execute them.

4. Bring together the right partners

The big buzzword in insurtech right now is partnering. While insurtech startups need access to distribution in order to scale their businesses, most don't have the time, patience or money to get involved in the more tiresome,

regulatory and capital intensive parts of insurance that would make their organization independently sustainable. That's why many successful insurtech startups have developed a strong symbiotic relationship with traditional market incumbents. These companies partner with established insurers that have the distribution networks, capital and regulatory expertise, but lack the technical know-how to develop specific solutions. Insurers can approach insurtech the same way — by looking for the right partners who can help them address problems and gaps so that they can be more effective.

Focus on the future

As insurance companies look to understand and take advantage of insurtech, insurance-focused technologies will continue to evolve. Focusing only on what's hot right now may mean insurance companies lose sight of what opportunities might be right around the corner. Keeping abreast of evolving trends in insurtech is critical to the long-term ability of insurance companies to compete. Looking ahead over the next 12 to 24 months, some trends to watch include:



Technology enablement

Managing legacy systems is a big barrier to innovation for companies in the insurance space — and insurtech companies know it. As a result, there will likely be a focus on technologies that can make legacy systems integrate more easily, such as by opening up application programming interfaces so that companies can fully take advantage of the outcomes of any partnership endeavors.



Cross-industry applicability

Insurers should keep up-to-date on technology innovations in fields like retail, banking and automotive as they may have applicability to the insurance space. As these other sectors converge with insurance, they will provide new opportunities and threats to insurers. For example, banks and vehicle manufacturers may use convergence to capture more of the insurance value chain, or insurers could work out how to partner with them to open up new markets. With industry boundaries blurring, more opportunities are coming into play.



Proactive technologies

Over the next year, there will likely be an increase in technologies that can help insurance companies provide more proactive services to their customers. A number of companies already offer these types of solutions, including Helium — which provides environmental sensors that notify users when conditions change, and Kinetic — which has designed wearable devices aimed at reducing workplace injuries.



Improved customer experience

One of the biggest areas of opportunity for insurance companies when it comes to insurtech over the next

year will be the ability to vastly improve customer experience through data and analytics. Most insurance companies have an immense amount of data at their fingertips. Being able to use this data to provide tailored services to customers or to help them manage their risk more effectively could become a key competitive advantage in the future. The insurers that can get customers to trust that sharing their data will result in better products, services and experiences for them will get the most value out of D&A.

What's next?

Insurers today need to do more than understand the importance of innovation and the opportunities presented by insurtech companies — they also need to be able to leverage and integrate insurtech solutions within their own enterprises if they are going to grow and be sustainable. While insurance companies face significant challenges, those able to make the most out of working with insurtech companies — whether through acquisitions, direct investments, innovation labs or services agreements — will be well positioned to be industry leaders in the years to come. ■



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Contributors

Martin Blake

Chairman, New South Wales

KPMG Australia

T: +61 2 9335 8316

E: mblake@kpmg.com.au

Martin has over 20 years' experience in managing large transformation programs and developing business strategies for corporations in Australia and Asia. His areas of expertise include business and growth strategies, merger integration and separation, target operating model development, process and organization design to support large scale transformation programs. In addition to his Chairman role, Martin was recently appointed Head of Insurance for KPMG Australia.

Tek Yew Chia

Partner

KPMG in Singapore

T: +65 5213 3726

E: tekyewchia@kpmg.com.sg

Tek Yew Chia is the Head of KPMG in Singapore's Financial Services Advisory practice where he leads engagements with clients in areas such as digital transformation and customer growth strategies. His recent experience includes working with a leading insurer on co-innovation digital programs.

Murray Raisbeck

Global Co-Fintech Lead and Partner

KPMG in the UK

T: +44 20 7311 5910

E: murray.raisbeck@kpmg.co.uk

Murray is a partner within KPMG in the UK's Insurance practice. He works with global financial services clients in the insurance, asset management and wealth management industries. Murray was recently appointed KPMG's Global Co-Fintech Lead and leads on Innovation and Insurtech for KPMG in the Insurance sector.

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Securing the chain

May 2017

To date, much of the blockchain frenzy has centered on its vast transformative potential across entire industries. Organizations have focused squarely on 'how' they can use blockchain for business. Yet, as they move toward implementation, security and risk management can no longer take a backseat. In this paper, we explore two incidents within blockchains.



The Pulse of Fintech: Q1, 2017

April 2017

'The Pulse of Fintech' is a quarterly report created by KPMG Enterprise and KPMG Fintech. The series analyzes the latest global trends in venture capital investment data on the fintech sector.



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The fundamental definition of how customers experience and interact with a bank is being challenged and redefined. Banks must learn to understand the digital disrupters and enablers.



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January 2017

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Transformative change — How innovation and technology are shaping an industry

October 2016

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October 2016

The combination of technology and financial services is resulting in the disruption of the finance industry. In this report, the leading 50 established fintechs and the next 50 emerging stars from across the globe are identified.

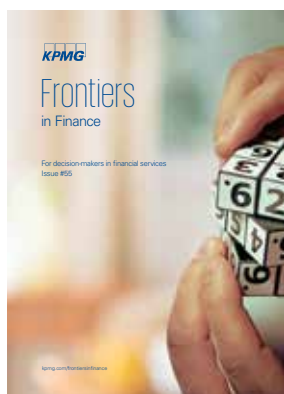
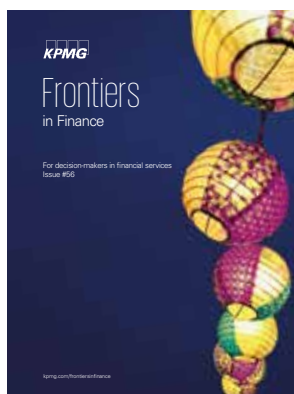


Set the pace or risk falling behind

September 2016–March 2017

This online article series leverages data from more than 100 Insurance CEOs to bring in their views on the major themes impacting their business and the industry at large including growth, strategy, cyber security, automation, innovation, customer and D&A.

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Global leaders



Jeremy Anderson
Chairman, Global Financial Services
KPMG in the UK
T: +44 20 7311 5800
E: jeremy.anderson@kpmg.co.uk



James P. Liddy
Regional Coordinating Partner Financial Services
Americas region
KPMG in the US
T: +1 212 909 5583
E: jliddy@kpmg.com



Simon Gleave
Joint Regional Coordinating Partner Financial Services
ASPAC region
KPMG China
T: +86 10 8508 7007
E: simon.gleave@kpmg.com



Gary Reader
Global Head of Insurance
KPMG International
T: +44 20 7694 4040
E: gary.reader@kpmg.co.uk



Tom Brown
Global Head of Asset Management
KPMG International
T: +44 20 7694 2011
E: tom.brown@kpmg.co.uk

kpmg.com/socialmedia



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