DIGITAL BANKING REPORT

ISSUE 239-240 // DECEMBER 2015

2016 Retail Banking Trends and Predictions

kony

"2016 will be a year of execution, as a number of big trends begun in the 2008 recession move mainstream such as mobile delivery, P2P lending, robo-advising, biometrics, etc. I also expect the large financial brands to roll-out formidable solutions, often powered by the very upstarts bent on disrupting them."

— **Jim Bruene**
Editor and Founder of Finovate

is published by DBR Media LLC, 8803 Brecksville Rd.,
STE 7-223, Brecksville, OH 44141, USA. Phone: +1 (216) 218-4257
admin@digitalbankingreport.com.

Issue 239-240 Cost $495

Subscriptions: US $1,695 per year worldwide includes electronic editions with *online archive access.*
Team and Enterprise subscriptions also available *here.*

Publisher: Jim Marous, *jmarous@digitalbankingreport.com*
Graphic Designer: Carol Ann Ryan
Customer Support and Circulation: Jim Booth

Letter from the Publisher

DIGITAL BANKING REPORT
Jim Marous, Publisher
jmarous@digitalbankingreport.com
8803 Brecksville Road, Suite 7-223
Brecksville, OH 44141
(216) 218-4257

Issue 239-240 Cost $495

SUBSCRIPTIONS: $1,695 per year for digital edition and online archive access.
$2,995 for teams of 10.
$9,995 for enterprise subscriptions

More than ever before, all of the banking industry's constituencies are being impacted by the transformation of the banking industry. The category that has the most to gain from the changes expected in 2016 will be the consumer. They are not only in the driver's seat with regards to being able to voice their digital banking expectations, but there are more firms than ever trying to meet those expectations.

As banking organizations further digitize their offerings, the consumer will benefit. In 2016, we will see end-to-end digital account opening and onboarding solutions, contextual offers, better pricing that reflects the economies from digital transformation, and a greater array of offerings coming from the partnership of fintech and legacy banking organizations.

We expect to see this wave of enhanced consumerism continue for the next several years. As margins get squeezed, competition intensifies and the government opens the door for a free market banking system, the banking industry will be in a constant state of flux.

For the fifth consecutive year, we have surveyed a panel of close to 100 global financial services leaders for their thoughts around upcoming retail banking and credit union trends and predictions. The crowdsourced panel includes bankers, credit union executives, industry analysts, advisors, authors and fintech followers from Asia, Africa, North America, South America, Europe, and Australia.

These exclusive interviews were combined with in-depth analysis, charts and case studies around each trend to make up this year's Retail Banking Trends and Predictions report. This is the most comprehensive analysis of annual projections in the banking industry.

We would like to thank Kony, Inc., who sponsored this year's report development and distribution. Their partnership enabled us to reach more industry gurus and compile more statistics than ever before.

Last year's report proved to be highly accurate, with significant advancements in digital delivery, mobile design, the use of analytics, innovation and customer experience. Our expert panel was a bit too optimistic, however, with their projections regarding mobile payments, industry consolidation and contextual engagement.

We hope this year's projections are helpful with your planning process.

Jim Marous
Publisher, Digital Banking Report

Features

Executive Summary

The Top 10 Digital Banking Trends and Predictions for 2016 have been collected from a crowdsourced panel of close to 100 global financial services leaders including bankers, credit union executives, industry analysts, advisors, authors and fintech leaders from Asia, Australia, Africa, North America, South America, and Europe.

For the fifth consecutive year, we have surveyed a crowdsourced panel of global financial services leaders for their thoughts around upcoming retail banking and credit union trends and predictions. This year's effort was sponsored by Kony, Inc., allowing us to provide our readers the most extensive collection of insights in the banking industry.

Last year's report proved to be highly accurate, predicting advancements in digital delivery, mobile design, the use of analytics, innovation and customer experience. Our expert panel was a bit too optimistic with their projections regarding mobile payments, industry consolidation and contextual engagement, however.

TOP 10 RETAIL BANKING TRENDS & PREDICTIONS FOR 2016

This year's projections include a 'doubling down' on some of the major trends from last year, with new projected trends in the areas of digital and mobile delivery, customer experience, digital payments, alternative products, innovation, authentication and advisory services.

1. The 'Platformification' of Banking
2. Removing Friction from the Customer Journey
3. Making Big Data Actionable
4. Introduction of 'Optichannel' Delivery
5. Expansion of Digital Payments
6. Executing on Innovation
7. Exploring Advanced Technologies
8. Emergence of a New Breed of Banks
9. Mining New Talent
10. Responding to Regulatory Changes

Overview of Trends & Predictions

The first four of the trends above were omnipresent trends that were referenced by the majority of our panel. For the first time, panelists also believed banking would be testing blockchain opportunities and responding to rising interest rates. While the impact of any of these trends will differ by region or institution, the panel believes each will have the potential to be game changers in 2016.

Overall, it was universally believed that the banking industry would still be playing 'catch-up.' It was also believed that the potential to be left behind or consolidated would increase as consumer expectations escalate and margins remain thin.

James Haycock, Managing Director of Adaptive Lab and Co-author of the book, *Bye, Bye Banks?*, said, "It's plain to see that a perfect storm of competition, technology, shifts in customer behavior and regulation will wreak havoc on the businesses we trust with our money. It's a matter of when, not if, banking is reinvented. A new generation of companies and leaders are tearing the rule book to pieces, adopting new technology, using new working practices, and serving customers whose lives are increasingly orientated around their mobile phones better than traditional banks can currently."

Dan Latimore, SVP of banking for Celent, was a bit more optimistic, saying, "2016 will be the year that the gap between fintech hype and actual production-level implementation begins to significantly narrow. From biometrics to big data and analytics, from mobile payments to real-time, momentum will build as banks begin to implement at scale, and consumers begin to adopt in meaningful numbers. It won't be a flood – changing the consumer takes time and requires overcoming inertia – but there will be significant progress."

10 RETAIL BANKING TRENDS & PREDICTIONS

1. The 'platformification' of banking. Instead of competing, banks and fintech firms will partner more than ever in 2016, leveraging the banking advantages of scale, stability, trust, experience in navigating regulations and the access to significant capital. Conversely, by leveraging the agility, innovation culture and technological expertise of fintech firms, banks will become the hub of distribution for a broader assortment of solutions.

2. Removing friction from the customer journey. It is no longer adequate to wait until the customer walks into a branch or decides to purchase a new product online or via a smartphone. Instead, banks and credit unions must engage customers at every stage of their purchase journey – not just because of the immediate opportunities to convert interest to sales, but because two-thirds of the decisions customers make are formed by the quality of their experiences all along their journey.

3. Making data actionable. Capturing and using consumer insight will be an important differentiator for organizations hoping to build new relationships and solidify those relationships already in place. Consumers will expect their financial institution partners to be able to provide real-time recommendations based on changes in their financial profile.

4. Introduction of 'optichannel' delivery. Beyond “multichannel” (delivery on multiple platforms), or “omnichannel” (delivery through all channels similarly), an optichannel experience will deliver solutions using the best (optimal) channel based on the customer’s need and preferred channel. In other words, rather than offering all channels for a specific solution, big data will enable an organization to point the consumer to the channel that will provide the best personalized experience.

5. Expansion of digital payments. The *2015 North America Consumer Digital Payments Survey* by Accenture found that while the number of North American consumers who know they can use their phones as a payment device jumped nearly 10 percentage points since last year, to 52%, actual mobile-payment usage remained flat. Mobile payments will continue to increase in adoption in 2016.

10 RETAIL BANKING TRENDS & PREDICTIONS

6. Executing on innovation. Although innovation is a proven path to differentiation and competitiveness, the banking industry's short-term focus, siloed approach to operations and risk-averse culture work against the potential for meaningful advancements. Banking will begin to replicate the best of fintech start-ups while leveraging their customer base scale advantage to respond to a changing marketplace.

7. Exploring advanced technologies. Blockchain technology, robots, artificial intelligence (AI), biometric authentication and the Internet of Things (IoT) were all mentioned by our crowd-sourced panel this year. While there will be a great deal of debate as to the likelihood of any of these trends gaining traction in the next 12 months, most panelists believe the debate can only be around timing.

8. Emergence of a new breed of banks. The term "challenger bank" is widely used to describe a banking organization, started from the ground up and built without relying on another banking firm for back office support. While more common in the UK at this time, this breed of bank will begin to emerge in the U.S. in 2016.

9. Mining new talent. Attracting and retaining top digital talent that can support this internal cultural shift will become a priority in 2016. According to Accenture, "Sixty-one percent of digital organizations see shortages of digital skills as a top challenge in digital transformation and are concerned about how they can attract and retain top digital talent."

10. Responding to regulatory changes. New regulations that may expand banking powers to non-banks can be both a threat and an opportunity, In 2016, it will be important for banks and credit unions to move in lockstep with future changes. Delivering on these opportunities may be a challenge, however, since legacy technology makes it difficult to keep pace.

The 'Platformification' of Banking

As transformation of the banking industry continues, fintech firms and legacy banks are beginning to realize the benefits of working together to deliver innovative solutions and superior customer experiences to an increasingly digital consumer.

"The holy grail for banks is to become the best at "fintegration","

— Andres Wolberg-Stok
Global Head of Emerging Platforms and Services at Citibank

Fintech firms see the advantages of leveraging banking's large and loyal customer bases, experience with risk and regulations, a broad product set, established trust and the deep financial pockets of incumbent banking organizations.

Alternatively, most incumbent banking organizations need the fintech advantages of not having to work with old, legacy operating systems, an innovation agility unheard of in traditional banks, a better understanding of today's technologies and a laser focus on narrow solutions. The question is whether these new partnerships can preserve the culture of the fintech firms, while allowing legacy banks to be the hub of the consumer's financial relationship.

In a report published by the Economist Intelligence Unit titled, *'The Disruption of Banking,'* senior bankers and fintech executives were interviewed to ascertain the likely landscape for the retail banking industry over the next five years. While the degree of anticipated impact differed, both groups believed fintech firms will have a significant impact on the future landscape of banking.

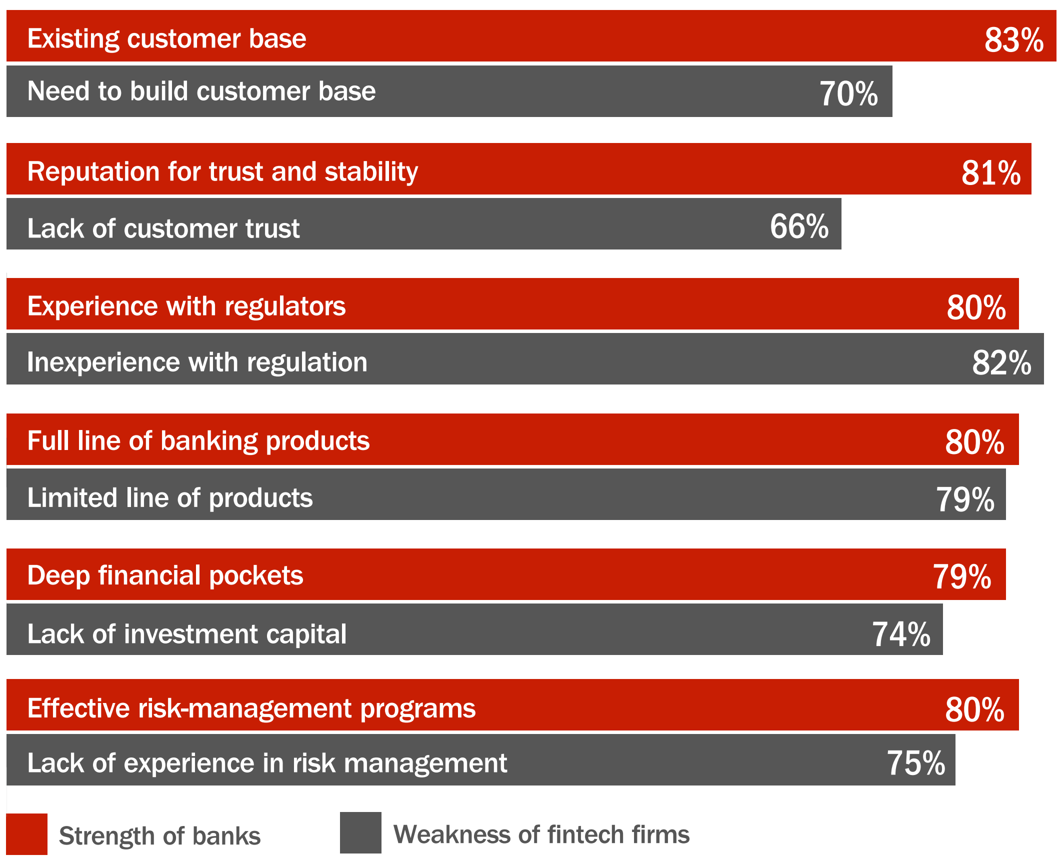
When the EIU asked bankers and fintech executives to assess their own strengths and weaknesses as part of the study, there was a strong correlation between the strengths of banks and the weaknesses of fintech, and, conversely, the strengths of fintech and the weaknesses of banks.

The 'Platformification'of Banking

The most obvious complementary factor is that fintech firms need the scale of customers that the banking industry already possesses. With a much longer tenure and scale, banking firms also had the advantages of stability, trust, experience navigating regulations and compliance requirements and the access to significant capital.

CHART 1: BANKING STRENGTHS VS. FINTECH WEAKNESSES SELF-ASSESSMENT

(% citing 'very important' or 'somewhat important')



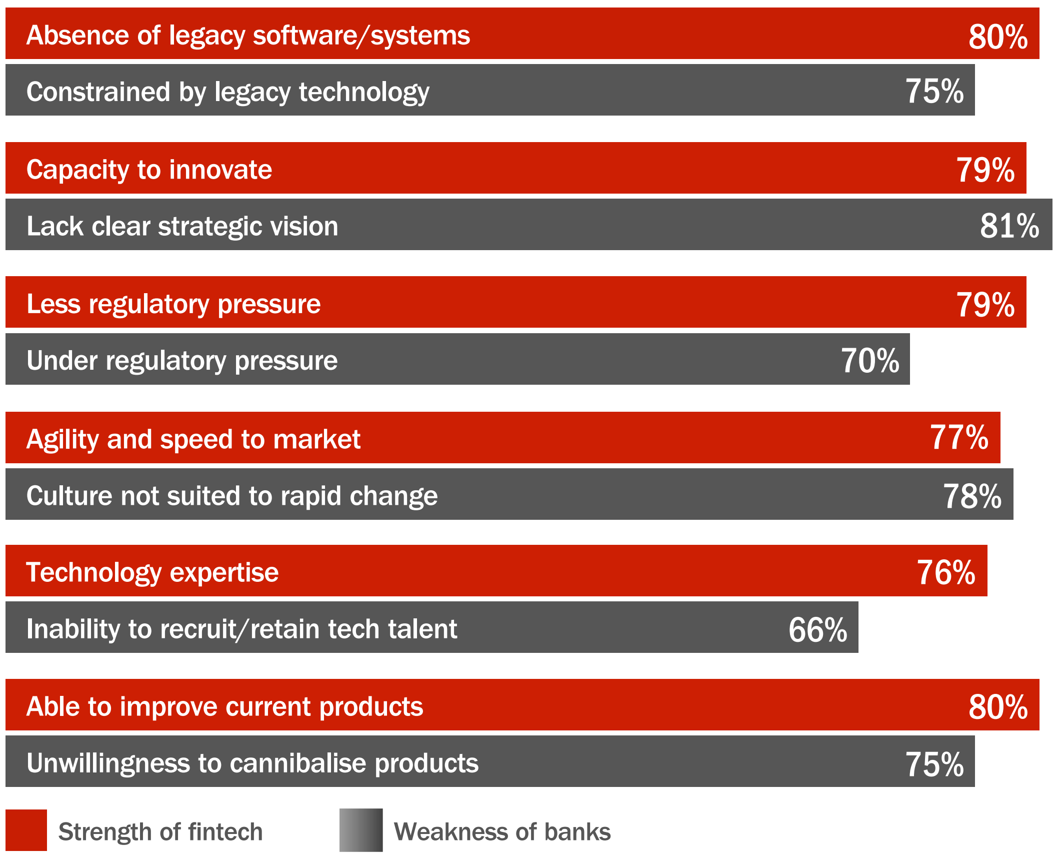
Source: The Economist Intelligence Unit © December 2015 Digital Banking Report

The 'Platformification'of Banking

When the weaknesses of banking were analyzed, it was determined that banks were more constrained by legacy systems than fintech firms, stifling innovation and the ability to be agile. Banking was also hampered by the inability to recruit the level of technological expertise needed to improve products compared to fintech firms.

CHART 2: FINTECH STRENGTHS VS. BANKING WEAKNESSES SELF-ASSESSMENT

(% citing 'very important' or 'somewhat important')



Source: The Economist Intelligence Unit © December 2015 Digital Banking Report

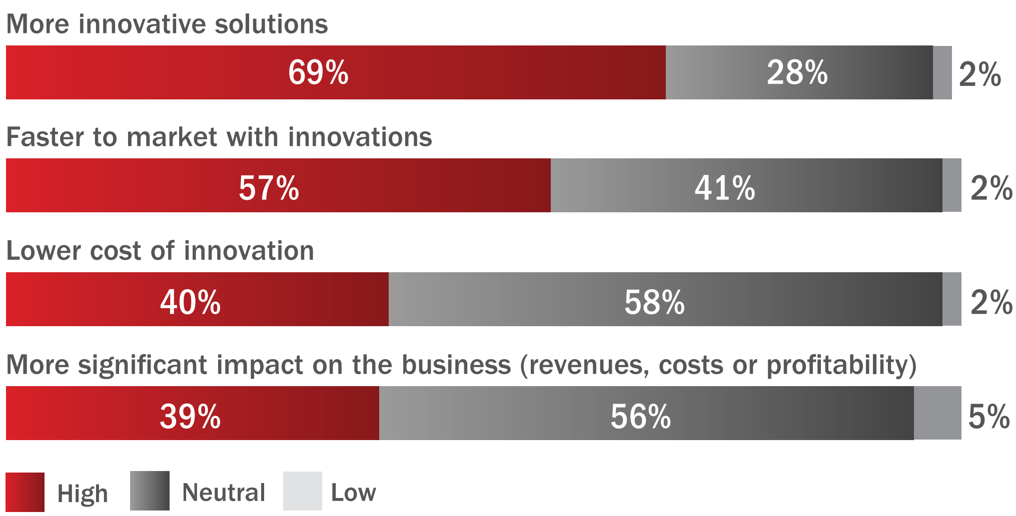
The 'Platformification'of Banking

According to the 7th Annual Innovation in Retail Banking Report from Efma and Infosys Finacle, "It is clear that start-ups are at the forefront of innovation in retail financial services. In some areas they are competing with banks, and in other areas they are developing products and services that can be used by banks. Either way, there is an opportunity for banks to work with start-ups, as partners or suppliers."

The study found that 43% of respondents were positive or very positive about working with start-ups as business partners and slightly less (41%) felt the same way about working with start-ups as suppliers. Less than 10% of banks were negative on either concept.

A primary reason for working with fintech start-ups was to improve the innovation process. This includes the ability to provide more innovative solutions (69%), impact speed to market (57%), lowering the cost of innovation (40%) and making a 'business impact'.

CHART 3: ADVANTAGES OF WORKING WITH START-UPS



Source: Efma-Infosys Finacle Innovation Survey 2015 © December 2015 Digital Banking Report

Because of these complementary needs, the number one prediction for 2016 (by far) was the realization that fintech firms may be better partners than competitors in the future … a 'platformification' of banking.

— *Ron Shevlin*

"The most significant trend of 2016 will be the 'platformification' of banking, where both existing banks and start-ups begin a strategic shift towards becoming banking platforms, much like how Amazon is a platform in retail."

— Ron Shevlin, Director of Research for Cornerstone Advisors and Author of the book Smarter Bank

"The trend of building integrated solutions will remind industry old-timers of the 'financial supermarket' trend from the 80s, but platformification is different because banks and fintech startups can't just sell (or re-sell) individual services from multiple providers. Instead, they will integrate services and provide quantifiably superior solutions (superior in terms of cost, performance, speed, convenience),"says Shevlin.

Financial industry consultant and fintech advisor, **David Gerbino**, referenced that fintech partnerships are not necessarily new. "While fintech firms and banks will continue to be pitted against each other in the media, by Congress, in banking C-suites and by regulators in 2016, the smart banks will partner with fintech solution providers as they have for the last few decades."

Matthew Wilcox, SVP of the Digital Banking Group at Fiserv agrees, "I believe you will see advancements in partnerships with fintech companies who have created specific use case solutions that will drive enhanced results for retail, small business, and corporate banking customers."

"I think the issue of rebuilding of organizations around APIs, will come to the fore. For the incumbents, it is far from clear that adding an API layer will be sufficient to deliver the flexibility and creativity that interconnecting challengers can bring to the space. Therefore, I suspect, that as APIs become the focus of competition in services, we will see considerable activity in acquisitions and partnerships."
— Dave Birch, Director of Innovation at Consult Hyperion

"By leveraging the gain they made in building trust and differentiated experience, the winners of the first wave of financial services startups will aim to provide a more complete financial services experience to their users."
— Yann Ranchere, Partner at Athemis Group

"We will finally see a marriage happening between fintech and banks, with the latter integrating talent from the former, somehow looking for help to become faster in delivery, more accurate in their value propositions, and extremely attractive in UX and design of experiences."

— Maria Jose Jorda Garcia, Head of Customer Experience Transformation, BBVA

The 'Platformification'of Banking

"I think that 2016 will see more banks partnering with startups in a quest to get to market faster than their legacy systems currently allow – both under their own brand and white labeled."
— **Louise M. Long**, Head of Human-Centered Design at NAB Labs

"Next year, we will also not speak about banks vs. start-ups but the collaboration between banks and start-ups. Within 2-3 years, the rise of the API economy will also arrive in banking."
— **Claire Calmejane**, Director of Innovation at Lloyds Banking Group

"Banks will continue to invest in fintech, with more banks having an increasing focus on ROI. A significant number of banks will also open up their APIs to the fintech community in 2016."
— **Danny Tang**, Channel Transformation Leader, Global Banking at IBM

"JP Morgan Chase's partnership with OnDeck will inspire more partnerships with fintech firms to accelerate change. But laggards are going to lag, and we'll see them fade into irrelevance faster than last month's internet memes."

— **JP Nicols**, President and COO of Innosect

"It becomes increasingly apparent that some banks do not have the scale to compete as retail innovators or efficient payment processors. These firms will need to reinvent themselves or sell the resulting run rate to their boards, shareholders and commentators."
— **Daryl Wilkinson**, Managing Partner of Lab12 Innovation

"Fintech will partner with incumbents or be bought by them as fintechs accelerate their growth and banks will try to close their innovation gap. The fintech revolution has only scratched the surface of its potential and that is just great news for customers."
— **Spiros Margaris**, Founder of Margaris Advisory

"We will see more acquisitions of fintech companies in 2016, and it will be interesting to see if start-ups are left as standalone entities or folded into the legacy organizations. Open APIs will help integration attempts and the smarter banks will leverage this advantage."
— **Aden Davies**, previously Social Technologies Specialist at HSBC

The 'Platformification'of Banking

"I wouldn't be shocked if a firm like Visa or Goldman Sachs looks to open-source more of their internal projects as a way to attract participation from Silicon Valley – this will hint at banks becoming 'platforms'."

— Ian Kar, Future of Finance Reporter at Quartz

"Fintech firms will mature, with investment in the fintech industry further increasing. The majority of banks will pick up the digital banking theme and create fintech partnerships."
— Frank Schwab, Co-Founder of the FinTech Forum

"Traditional financial groups will start to integrate new services originated by startups, in the same way that Goldman Sachs is developing online lending or ING is partnering with Kabbage. At the same time, there will be more rationalization and consolidation in the fintech space, with the large players continuing to grow – and potentially acquiring smaller startups."
— Huy Nguyen Trieu, Author of the blog, *Disruptive Finance*

"The attention paid by the financial sector to fintech is due to several factors: start-ups gaining traction around the world, some large digital players launching financial products which gained scale and visibility quickly, and the emergence of new technologies, such as blockchain, which could change a number of things for the sector."
— Christophe Chazot, Group Head of Innovation at HSBC

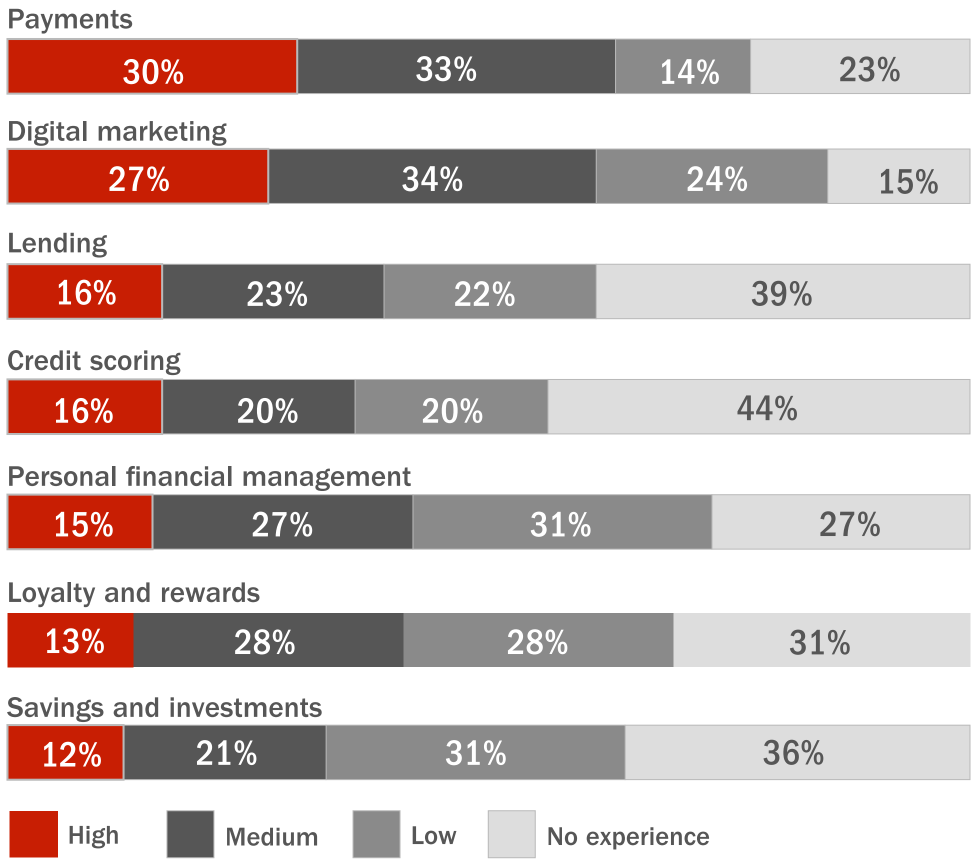
"Similar to the stage theatre competing with broadcast TV, can banking build a new business with new media and a new team? Will banks wake up and give up some of the ownership of governance within their organization and put it in the hands of the fintech expert?"
— Barbara Biro, Director, Channel Migration/Digital Transformation at Mashreq Bank

"The recent partnerships between banks and fintech firms show that banks value the platforms these start-ups have built, which will foster more collaborations in the future. We should expect more alliances built around APIs and white-label solutions in the future, allowing any entity with strong ties to the consumer or small businesses to offer solutions to those markets."
— Stephen Sheinbaum, Founder of Bizfi

The 'Platformification'of Banking

Despite the perceived advantages of working with start-ups as part of the innovation process, Efma found the experience of working with fintech firms is still very modest. The most common areas of cooperation are in the payments, digital marketing and lending areas. As more banks begin to work with start-ups as a normal course of business, the results should become more positive.

CHART 4: EXPERIENCE WORKING WITH START-UPS

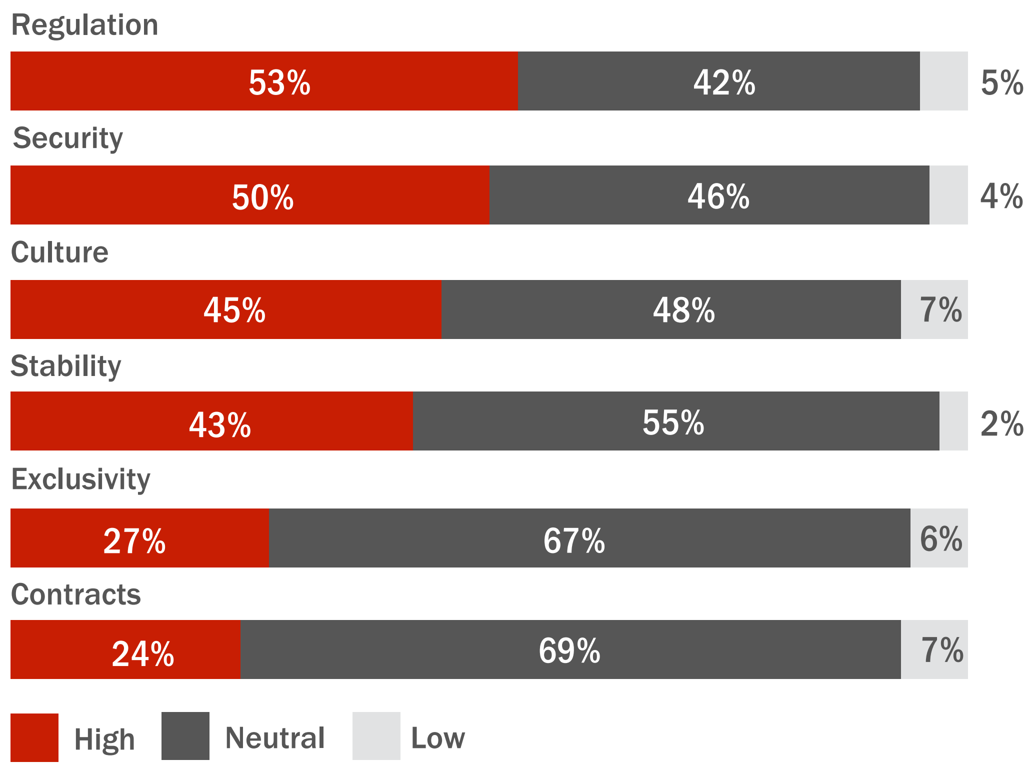


Source: Efma-Infosys Finacle Innovation Survey 2015 © December 2015 Digital Banking Report

The 'Platformification'of Banking

Even with the best of intentions, there are still challenges with working with fin-tech start-ups according to the Efma research. As could be expected, the biggest challenges mentioned were with regulations and security, where 53% and 50% of the banks respectively found challenges to be high. It should also not come as a surprise that 'culture' was also perceived to be a challenge.

CHART 5:
CHALLENGES OF WORKING WITH START-UPS



Source: Efma-Infosys Finacle Innovation Survey 2015 © December 2015 Digital Banking Report

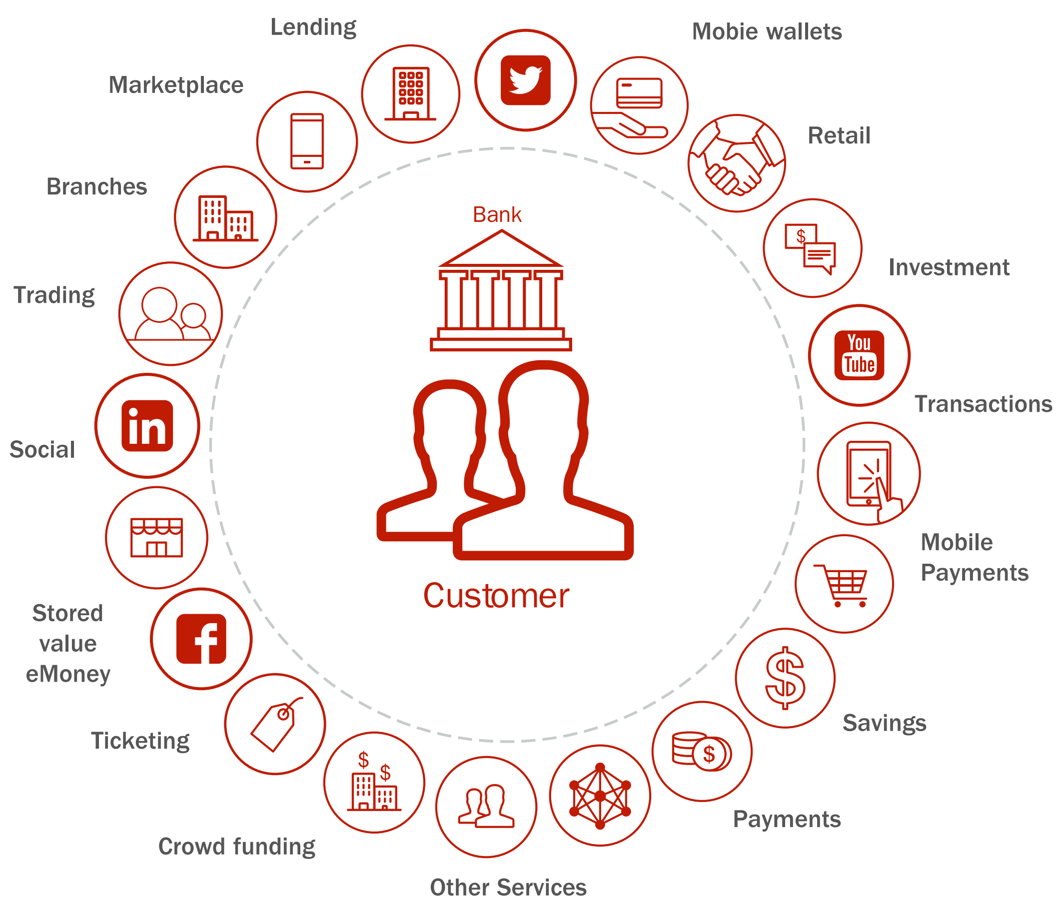
Despite these challenges, there is also the belief that we are at one of the greatest junctures of opportunity in the banking industry, with the potential to acquire new tools and capabilities through partnership or purchase.

IBM research entitled, *Banking Redefined: Disruption, Transformation and the Next-Generation Bank* stated that banks have an opportunity to position themselves at the epicenter of evolving ecosystems. They can offer a broad range of best-in-class services for the benefit of their customers.

By offering these new and existing services under one roof (or as part of one app), banking organizations can retain customer loyalty through lower costs and a wider selection. Relieved of the burden of offering the services themselves, banks and credit unions could focus more heavily on enhancing the customer experience … reducing the experience gap.

An interesting side benefit is that infrastructure costs could fall as fewer services are offered. Instead, there will be a greater focus on pass-through commissions or markups, allowing margins to increase. The 'value add' will be the ability to leverage contextual insights across products to provide highly personalized solutions for consumers.

CHART 6: CUSTOMER & PARTNER ECOSYSTEMS ARE MERGING



Source: IBM © December 2015 Digital Banking Report

The 'Platformification' of Banking

Banking executives identified five key capabilities required to accelerate the transformation required to be the financial services gatekeeper.

1. **Partnering and Collaboration** – To be positioned at the center of the customers' financial ecosystem, banking organizations will need to be able to partner and collaborate with new fintech players. Forty-five percent of global banking executives believe that partnerships and alliances improve their banks' competitiveness.

2. **Agility** – Traditional banks will need to have agility similar to the new fintech start-ups. Only 21% of global banking executives believe their organizations have above-average agility compared to fintech peers, reflecting a gap in capabilities.

3. **Innovation** – Simplified business processes and openness were thought to enhance and speed up innovation processes. The survey indicated that 48% of bankers thought social media will help them innovate in products and services.

4. **Analytics** – Actionable insights would allow for personalized interactions and transform customer relationships. Forty-eight percent of bankers say investment in predictive analytics is a key priority.

5. **Digitalization** – It was believed that digitalization was imperative for a next generation bank. As a result, 52% of global banking executives say that investment in mobile technologies is a key priority.

"Traditional concepts of what a bank does will change fundamentally and permanently," said **Likhit Wagle**, IBM Global Industry Leader for Banking & Financial Markets. "Bankers will no longer be bankers in the traditional sense. The most successful banks will be focused on collaboration, agility, innovation, analytics and above all on going beyond digital and transforming into becoming a Cognitive Bank."

5 CRITICAL CHALLENGES BANKING WILL FACE IN 2016

1. The Market Challenge

The brand awareness of new entrants will continue to grow. With new 'challenger banks' and digital versions of legacy banks being introduced, and with ongoing investment in fintech firms from within and outside the industry, the consumer awareness will increase and the idea that there are alternatives to traditional banks will lead to an increase in customer switching.

2. The Innovation Challenge

There's been a lot of hype around innovation and the banks are investing heavily, but the customer has yet to see any of the outcomes. The struggle will be access to customer data through bank's legacy technology, and comfort with being more experimental due to the risk of brand damage or escalating research and development costs.

Poor legacy technology is impacting banking brands with security and service lapses resulting in innovation being reactive rather than proactive. Innovation leaders will need to start to show a return on the investments that have been made.

The culture of banking also creates a challenge. Remuneration doesn't reward innovation and banks often have competing service lines that struggle to market to both an existing customer base as well as early adopters to new innovations.

3. The Customer Challenge

Banks have invested heavily in mobile and online offerings. But for banks to realize a return on their investment, they need to drive far higher adoption so they can realize efficiency targets.

What the banks are finding out is that it's not as simple as launching a mobile app – it needs to be accompanied by behavior change initiatives. Banks will get better at driving digital adoption, but it won't happen overnight.

4. The Regulatory Challenge

New European regulations requiring banks to offer APIs to the open market is set to have enormous impact. This is a threat and an opportunity and the banks haven't worked out a response yet. Once they do, delivering on the opportunity will be a significant challenge because legacy technology isn't in a great position to enable legacy banking to set the pace.

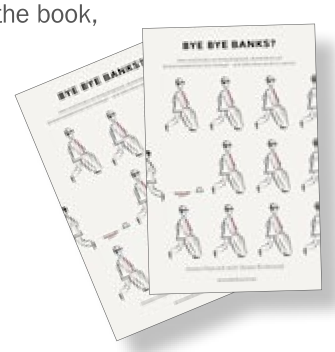
The opening of markets may also occur in the U.S. with similar opportunities and challenges. The question remains – will the industry be ready to participate?

5. The Talent Challenge

A major barrier facing the banking industry in their quest to modernize their technology is the need to hire the right talent. As banking organizations compete with all industries for many of the same types of skills, banking is not viewed as the most exciting career opportunity, especially by millennials.

Banks have already started to invest in training their staff and will only continue to do so. Training on digital, Agile and design techniques in particular will be the focus.

Insights contributed by **James Haycock**, Managing Director of Adaptive Lab and Co-author of the book, *Bye, Bye Banks?.*



Removing Friction from Customer Journey

The digital revolution is impacting all industries, including banking. It is impacting the way consumers research their choices, buy their products, expand their relationships and determine their loyalty. Winners in the digital battlefield will be those who simplify people's daily lives.

It is no longer adequate to wait until the customer or member walks into a branch or decides to purchase a new product online or via a smartphone. Instead, banks and credit unions must engage customers at every stage of their purchase journey – not just because of the immediate opportunities to convert interest to sales, but because two-thirds of the decisions customers make are informed by the quality of their experiences all along their journey.

According to a report from Bain & Company entitled, *Customer Behavior and Loyalty in Retail Banking*, the level of customer satisfaction is largely dependent on the delivery channels a consumer chooses to use. Bain found that consumers who rely on digital channels are 40% less likely to switch vs. those who rarely or never use mobile.

Conversely, those who frequently use branches say they are three times more likely to switch compared to those who rarely use branches. In many instances, satisfaction is dependent on the level of friction in any given process.

Gerard du Toit, Lead Author of the research and a Partner at Bain, blames this on the outdated branch model still used by most institutions.

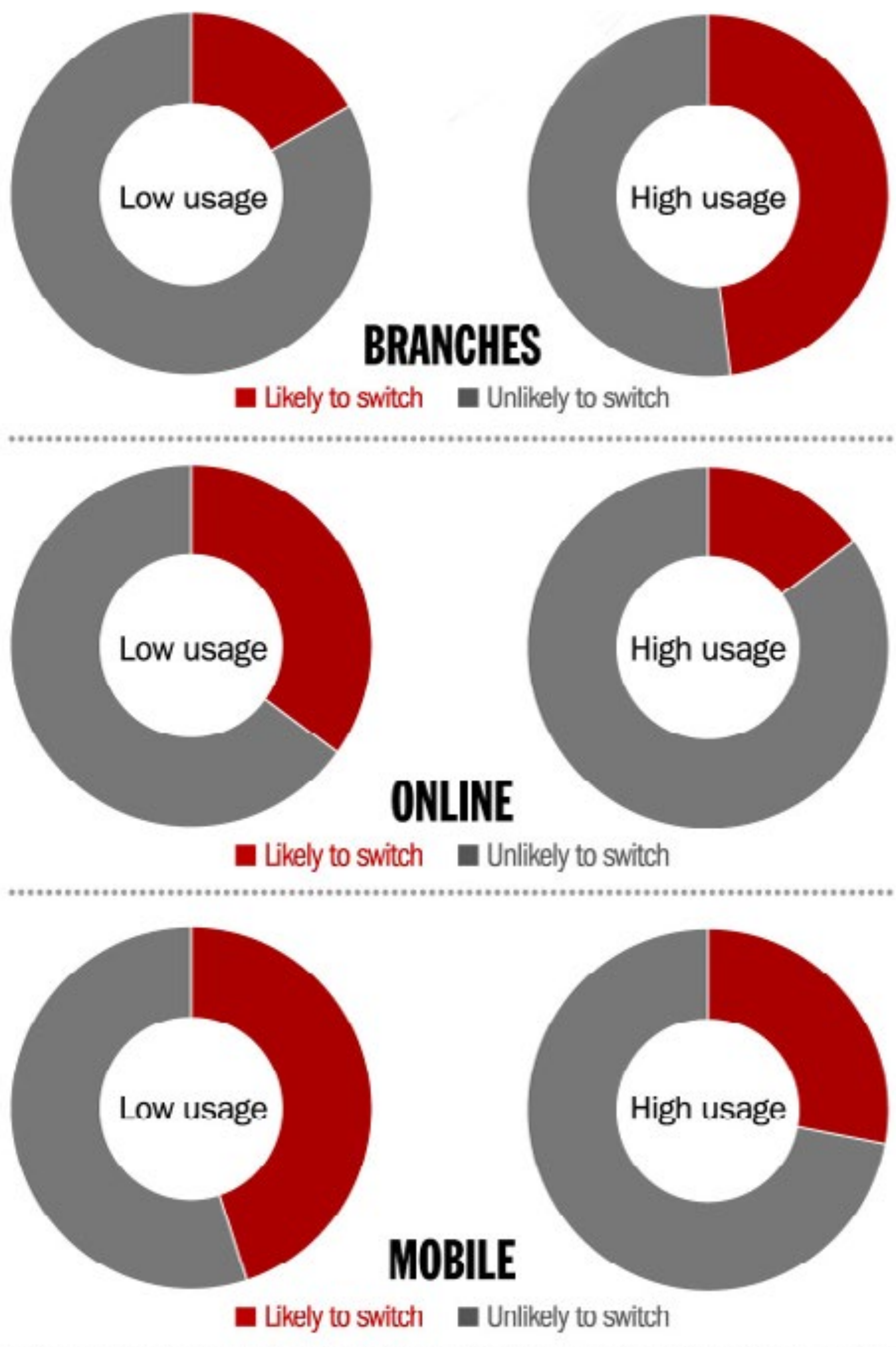
"In the U.S., 60-70% of branch interactions in a typical bank are either bad or avoidable," du Toit says. "Most of the time, a branch visit results in an inferior customer experience and comes at a higher cost for the bank."

Bottom line, when an institution provides a seamless and intuitive experience — in any channel — there will be less friction, and thus less need for service and support.

"When an institution provides a seamless and intuitive experience — in any channel — there will be less friction, and thus less need for service and support."

— Bain

CHART 7: LIKELIHOOD TO SWITCH BANKING PROVIDERS FOR EACH RETAIL CHANNEL



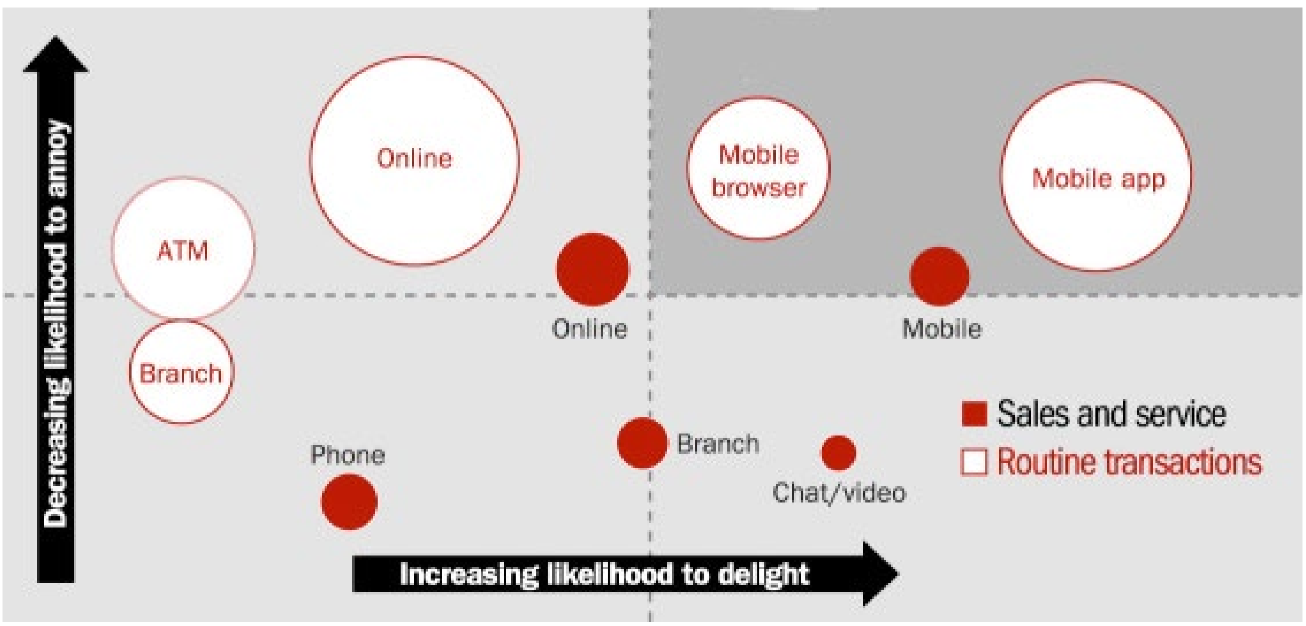
Source: Bain & Company © December 2015 Digital Banking Report

Removing Friction from Customer Journey

For the average bank, the most critical first step is to focus on improving the mobile experience — make it fast, intuitive, convenient and capable of handling consumers' basic needs. In many cases, this means eschewing a mobile website in favor of a mobile app. Why? On average, Bain found consumers were using mobile apps twice as often as mobile web browsing for routine interactions, and apps were consistently more likely to delight.

The next step is to increase awareness and drive adoption.

CHART 8: CONSUMERS ENJOY MOBILE INTERACTIONS MORE THAN OTHER BANKING CHANNELS



Source: Bain & Company © December 2015 Digital Banking Report

Removing Friction from Customer Journey

Gemma Godfrey, Founder and CEO of the soon-to-be launched digital wealth management firm, Moo.la, agrees, "The most significant trend for 2016 will be the increased focus on delivering a digital service and experience built around customer needs. The pressure is on for incumbents to evolve or collaborate. Likewise, the doors are opening for greater innovation, as disruptors or enablers."

Steven Ramirez, President of customer experience consultancy, Beyond the Arc, asks the question, "Has your company ever mapped out the process of opening a new account and trying to expand a relationship? Do your customers have to fill out a lot of paperwork to get started? You may be shocked at how many steps new customers need to take, and how much time the process consumes. We must make it easier for companies to welcome, onboard and sell to customers."

— Brian Solis

"In 2016, and over the years to come, retail banking will lean on UX (user experience) to design more than a 'mobile first' experience. Experience architects will rethink what a bank is and what it means to digital-first and mobile-only customers, designing an entirely new set of products that will lead to new types of relationships. It's innovation and disruption over iteration. The 'uber of banking' is imminent."

— Brian Solis, Principal Analyst for the Altimeter Group and author of the bestselling book: *The Experience When Business Meets Design*

"Banks who don't have a strategy to build authentic relationships with digitally native customers will continue to feel pressure as their customers leave their branches and head online."
— Josh Reich, CEO and Co-founder of Simple

"Less is more in the customer experience. Some banks will realize they can't hit mobile users who log in 30 times a month with the same 5 product pitches and will offer a choice of music, news, entertainment (assuming a difference) or content like *The Onion*, letting customers design their experience and perhaps share it with friends."
— Tom Groenfeldt, Writer for *Forbes*

"To defend their position against new players and enhance the overall experience, banks must drive towards a cohesive, integrated 'Digital Banking Ecosystem' — embedded in the organization's culture, serving customers and empowering staff."
— William Sullivan, Head of Global Financial Services Market Intelligence for Capgemini

Removing Friction from Customer Journey

“Delivering an exceptional mobile user experience will continue to grow in importance. In addition to innovations in the areas of new account opening, mobile payments and contextual offers, mobile use cases will expand beyond just banking features and be limited only by consumer creativity.”
— Steve Luong, Director, Product Marketing at Kony, Inc.

“Digital marketing strategy must be planned around consumer buying journeys as consumer shopping behavior for financial services continues to evolve. Financial institutions have the opportunity to utilize marketing automation to capture a consumer’s basic information early in their buying journey and then use contextual marketing to guide the consumer towards purchase, adoption, and ultimately advocacy.”

— James Robert Lay, CEO of CU Grow

“With more touchpoints, mapping the customer journey becomes critical to an enhanced customer experience. Understanding where consumers start, how they use channels in tandem, and where they stop along the way will be essential to managing relationships in the future.”
— David Kerstein, Founder of Peak Performance Consulting Group

“We will see smaller financial institutions (especially those in communities with populations greater than 100K) begin to realize they can’t just talk about the future of banking as consultative, without taking real steps to be more than an outlet for transactions.”
— Jim Perry, Senior Strategist at Market Insights

“Consumers are craving for a unique, customizable financial experience with an institution that’s fiscally and socially responsible. This lends itself to the community banking model. Despite mounting regulatory challenges and competition, community banks can remain competitive because of nimbleness in making decisions. If a $250-million-asset institution in a heavily banked marketplace can achieve these results, then any community bank can!”

Jill Castilla, President and CEO, Citizens Bank of Edmond

Removing Friction from Customer Journey

"Designing brand new experiences for consumers will be imperative as separate digital and branch channels no longer exist. Personal interactions enabled and supported by digital capabilities will create the experiences consumers want from their banks."
— **Jim Cross**, VP, Retail Product Development at Fifth Third Bank

"Customers of banks will become users of banks. Banks will become slaves of those who own the customer experience (Samsung, Apple, Google, Alibaba)."
— **Peter Vaner Auwera**, Co-founder of Innotribe

"Design will become more important in the online and mobile environments. It's time to make your digital platforms stand out by using small design elements that delight customers and put a smile on their faces."
— **Ross Methven**, Director of Client Services of Mapa Research

"There will be investment in niche areas like gamification that will help improve customer experience and increase customer retention quickly – as the larger banks begin to compete with smaller banks as well as consumer fintech firms."
— **Devie Mohan**, Fintech Strategist, Researcher and Speaker from Thomson Reuters

And last, but certainly not least regarding the improvement of the customer journey …

"Finally, can we stop hyperventilating over technology and double-down on delivering personal customer experiences? That's what this is all about, right?"
— **Neff Hudson**, Emerging Channels Executive at USAA

To succeed in reducing friction, Bain identifies six new capabilities that banks and credit unions must embrace:

1. Extraordinary design discipline, with special consideration given to the small screen and slow typing speed of impatient users.
2. Radical simplification of products, processes and communications.
3. Personalization powered by good data and analytics so that only relevant information is displayed to the user.
4. Contact methods that allow for anytime, anywhere chat and video calls with fast authentication.
5. Much faster development cycles to keep pace with new functionality and consumer expectations.
6. A new operating model that provides organizational agility, based on breaking down barriers that divide internal departments and a willingness to collaborate externally.

Making Big Data Actionable

As consumers demand more from their user experiences across industries, banks and credit unions need to develop strategies that will leverage data to better understand and serve customers at all stages of their financial lifecycle and in all channels. The result will be lower costs to serve, increased product sales and greater loyalty.

Social media represents a largely untapped source of insight that financial organizations can use to develop a more holistic view of their customers.

Financial institutions have access to billions of existing data points on consumers that can help them better understand current and prospective customers' needs. As a result, these same organizations are well positioned to use this data to improve targeting programs, the consumer experience, and ultimately, loyalty and revenues.

Analyzing transactional data is at the core of the data at a financial institution's disposal. Transaction data can uncover powerful insights into customer needs, preferences and behaviors.

However, transaction data represents only one type of insight that financial institutions possess. Other types of insight that reside within an organization include both structured data (demographic profiles, product ownership, balances, etc.) and unstructured internal data (call center logs, channel interactions, correspondence, etc.).

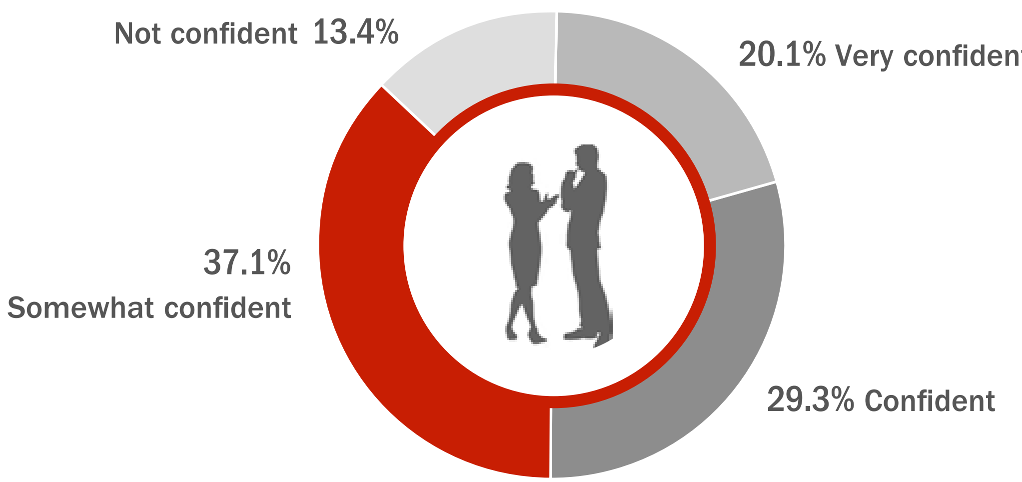
In addition to internal data sources, banks and credit unions can also take advantage of external data. Social media represents a largely untapped source of insight that financial organizations can use to develop a more holistic view of their customers. Social media insight is most effective in identifying opportunities based on recent life events, such as a birthday, marriage or even a recent major purchase.

Making Big Data Actionable

CapGemini found that over 60% of financial services institutions in North America considered data analytics to be a source of a significant competitive advantage. In addition, over 90% believed that "successful data initiatives will determine the winners of the future."

Despite this potential to leverage data to understand and serve consumers, only one-fifth of respondents to a survey from NGDATA felt very confident that their financial institution understood them. More than 50% of those surveyed were only somewhat confident or not confident at all that their bank or credit union understood their needs.

CHART 9: CONSUMER CONFIDENCE IN BANKING PARTNER - UNDERSTANDING OF NEEDS



Source: NGDATA © December 2015 Digital Banking Report

"The key for financial institutions to deliver superior customer experiences is to contextualize data, and to get personal – understand the customer at the individual level, and understand their lifestyle to deliver products, services and content that are pertinent to them, via the right channel, at the right time," stated

— Luc Burgelman, CEO of NGDATA.

Making Big Data Actionable

According to a report from Celent entitled, *Customer Analytics in Banking: Why Here, Why Now?*, there are six key well-established business drivers for predictive analytics in financial services. Each of these are important as a bank or credit union builds an analytic strategy for the future.

For each of the applications shown below, the power is not just in the analytics themselves, but in the ability to do so in real time. With more challenges than ever in banking, analytics is at the center of it all.

CHART 10: SIX BUSINESS DRIVERS FOR PREDICTIVE ANALYTICS IN FINANCIAL SERVICES

Customer Insight

– Sentiment analysis
– Social media analysis
– Credit analysis
– Customer profitability and lifetime value

Customer Experience Management

– Virtual agent
– Next best action
– Relationship pricing

Channel Execution

– Next best offer
– Profitability
– Sales/channel performance

Business Strategy

– Product channel strategy
– Risk and capital modeling

Risk Management

– Risk and capital management
– Risk adjusted pricing
– Portfolio risk management
– Fraud/AML

Marketing

– Lead generation
– Customer segmentation
– Campaign management

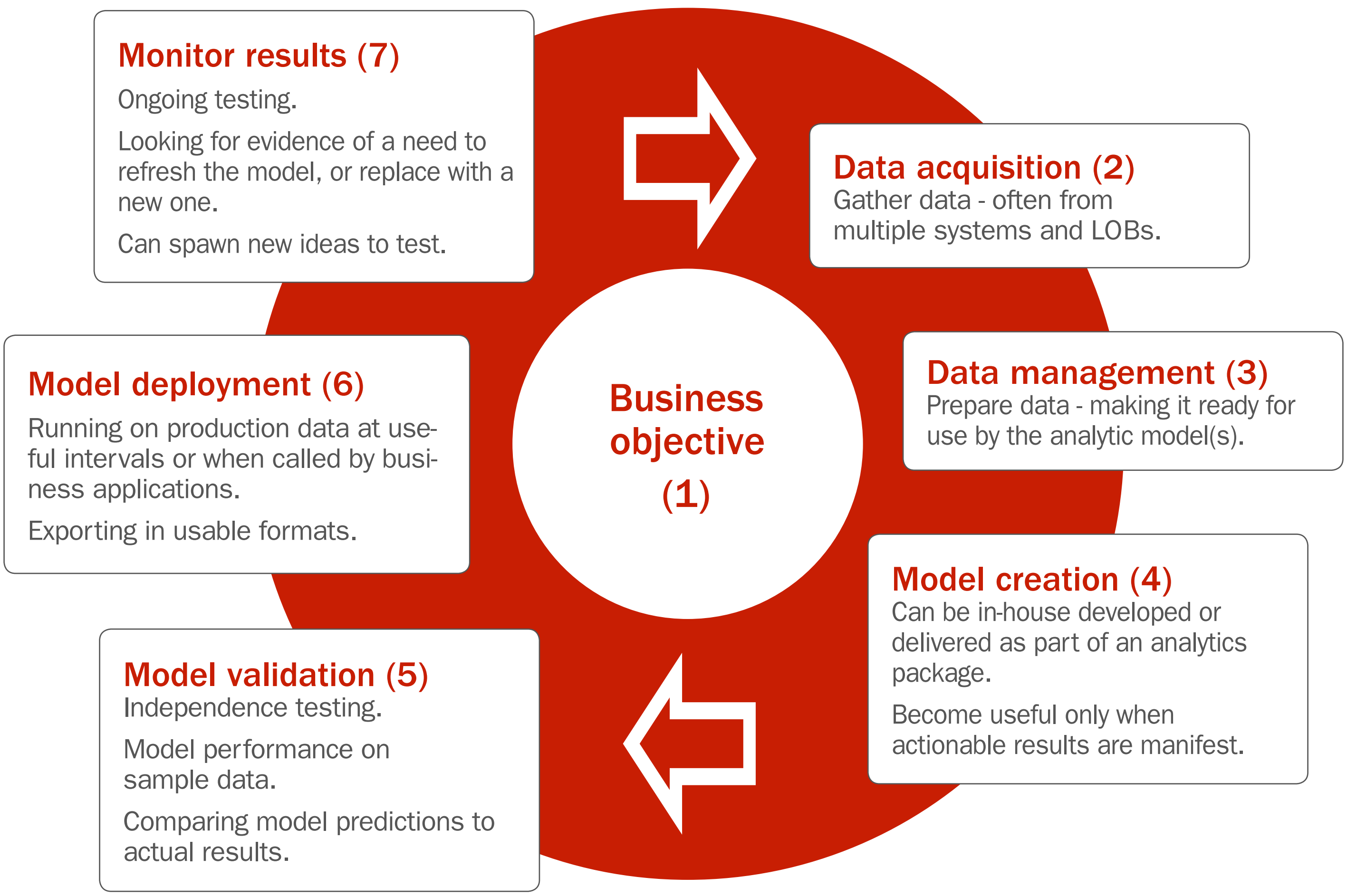
Celent © December 2015 Digital Banking Report

Making Big Data Actionable

Successful implementations always involve a series of steps and a test and learn process as shown below, with a different amount of time and effort applied to each step based on the specific objectives of the project being undertaken.

As mentioned, having access to data and the ability to process this insight is not enough. Consumers expect their financial institution partners to be able to provide real-time recommendations based on changes in their financial profile.

CHART 11: THE DATA ANALYTICS PROCESS BEGINS WITH A BUSINESS OBJECTIVE



Source: Celent © December 2015 Digital Banking Report

Making Big Data Actionable

According to **Mary Beth Sullivan**, Managing Partner, Capital Performance Group, "Banks of all sizes will leverage data and technologies to help customers make better financial decisions – improving the ability to save money, achieve specific financial goals, increase financial knowledge, better budget spending, etc. For many banks, this will entail partnering with technology partners rather than building in-house."

— John Waupsh

"2016 will mark the year fintech and martech begin to converge. Organizations will better understand each of their opportunities (from the device ID to end of life of the account holder), creating ever-evolving user profiles of consumers and automating actions across every point of interaction regardless of channel!"

— John Waupsh, Chief Innovation Officer, Kasasa by BancVue

"Contextual data analytics will introduce more intelligence into each customer contact, laying the groundwork for augmented intelligence towards the end of the decade."
— Chris Skinner, best-selling author and President, Financial Services Club

"Banks will stop talking about gathering big data and start using big data to make a difference for the consumer. We will see the integration and synchronization of data sources, enabling real-time determination of relevant data points for 1) analysis, 2) communication and 3) decision making – the 'trifecta' of big data."
— Beth Merle, VP, Enterprise Solutions at Epsilon

"Financial institutions will heighten their focus on deepening engagement with both their customers and employees through real-time access to actionable intelligence and tools designed to make their lives (and jobs) easier"

— Jenni Palocsik, Director, Solutions Marketing, Verint

"Pressure from millennials and Gen X will force banks to utilize data analytics much more effectively to anticipate customer needs and deliver a value enhancing experience similar to what they receive from their most used non-financial applications."
— Luveen Sidhu, Chief Strategy and Marketing Officer at Bankmobile

"Advanced analytics will allow data to take on 'human-like' characteristics, being real time, forward looking, and becoming a powerful currency in the race for fintech supremacy."
— Rob Findlay, SVP, Experience Design for DBS and Founder of Next Bank

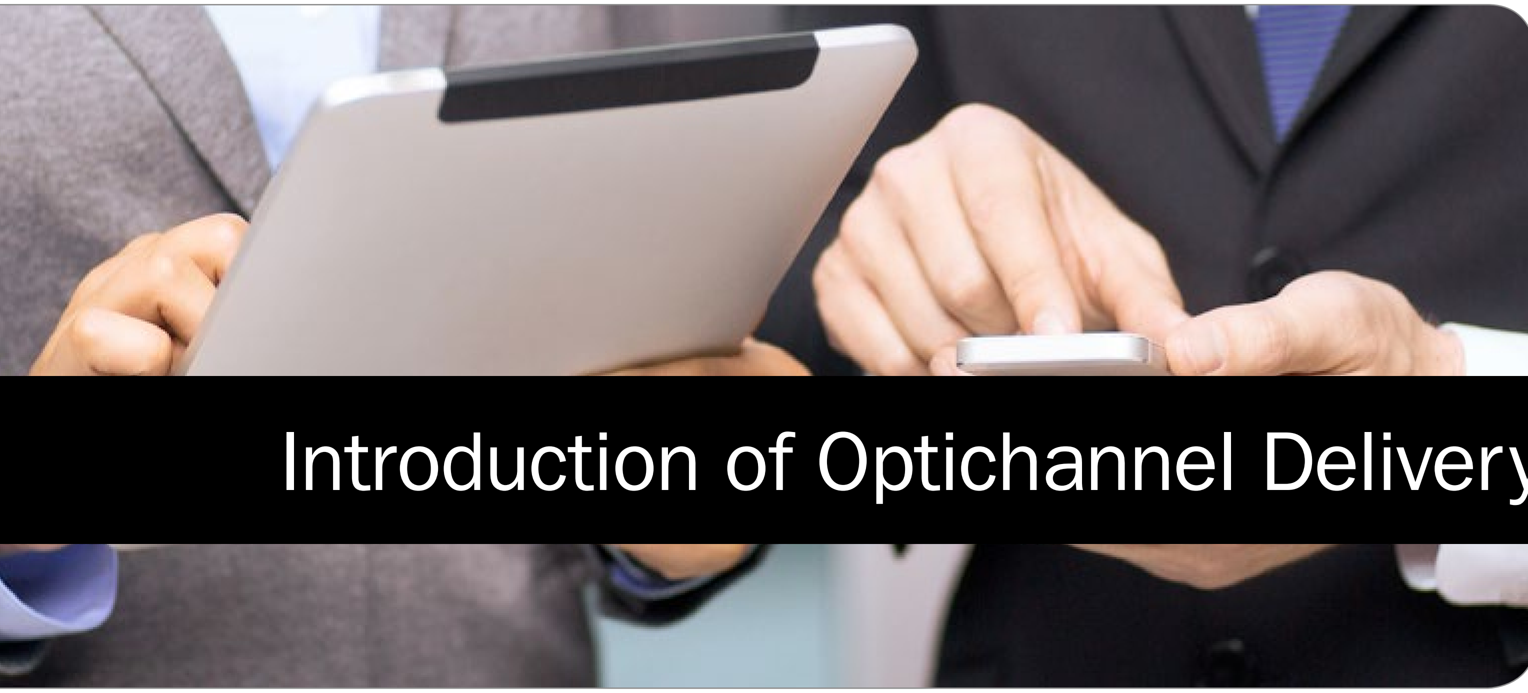
Making Big Data Actionable

"Banking will use data initially for improved targeting of specific user segments for marketing, and eventually to provide advice and drive engagement. Banks that move first will see the greatest advantage – but, soon this level of targeting will simply be table stakes."
– **Matt West**, Global Strategic Account Executive, MX

"For many organizations, digital experiences have been designed like billboards and offered up bland experiences. Going forward, technology will pay off on the promise of personalization and enable in-house teams to become savvier."
– **Craig McLaughlin**, CEO of Extractable

The reality is that, in the digital banking model of the future, data is a financial institution's most important asset. Banks and credit unions that are able to combine their internal and external data sources to create value will find themselves well placed to thrive in what some have called 'Banking 3.0'.

There is no question that this banking reality is as true today as it was years ago. The difference is that today's technology is making the task a bit easier.



Introduction of Optichannel Delivery

It is time for financial institutions to respond to the changing behavior of consumers, delivering products, services and financial education through both physical and digital channels. Integrating and optimizing this channel delivery can bring value to the consumer as well as the banking organization.

Today's consumers demand financial services to be available and delivered to them as seamlessly and ubiquitously as any transaction they complete with Amazon. And it's not just about improving customer service … it's about satisfying today's hyper-connected consumer by delivering both service and sales through any channel the consumer chooses to use. The financial institution that fails to deliver sales, as well as service, through the platform of their consumers' choice is doomed to stagnant growth.

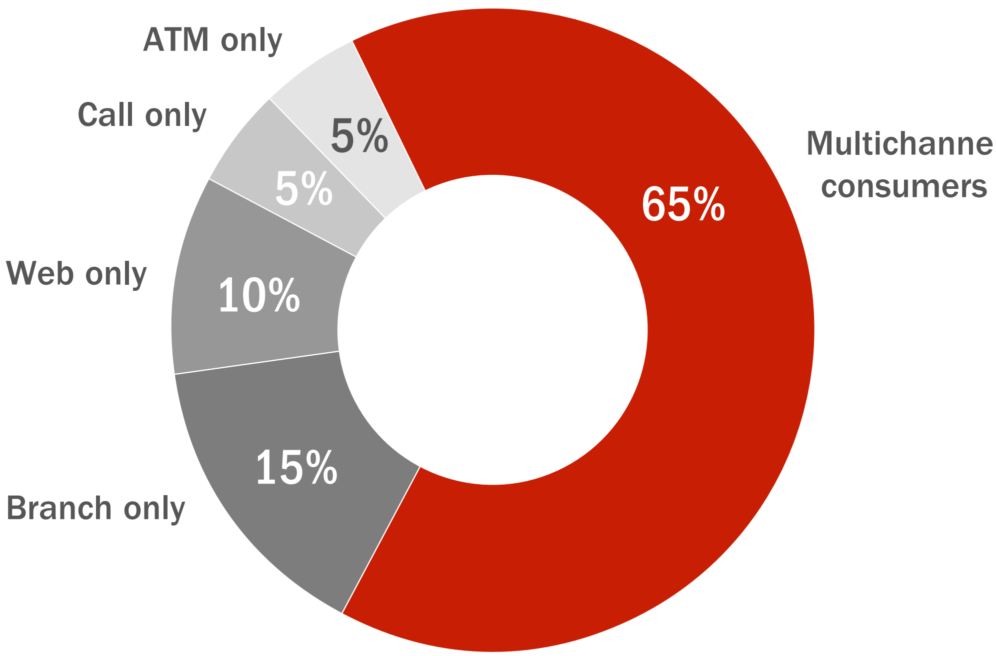
Most consumers no longer need a branch or any other brick-and-mortar structure to consume financial services (though they may still visit their local financial institution's branch for advice or validation about complex real estate or investment transactions, or complex servicing issues). Instead, an increasing number of consumers are transacting their financial business remotely through a variety of digital platforms: desktops, laptops, tablets, phones – even watches and glasses! And they get financial advice and information digitally also, through countless traditional financial and non-traditional websites.

Digital technology is evolving rapidly … and consumers are adopting to new technology at record levels. The industry has experienced double-to-triple digit growth in mobile banking users over the

Introduction to Optichannel Delivery

last few years. The result is the explosive growth of a hyper-connected customer base. Customers are connected to their financial institutions through multiple channels and devices. According to a study by McKinsey & Company, more than 65% of consumers interact with their financial institutions through multiple channels.

CHART 12: IN BANKING, MOST CONSUMERS USE MORE THAN ONE RETAIL CHANNEL

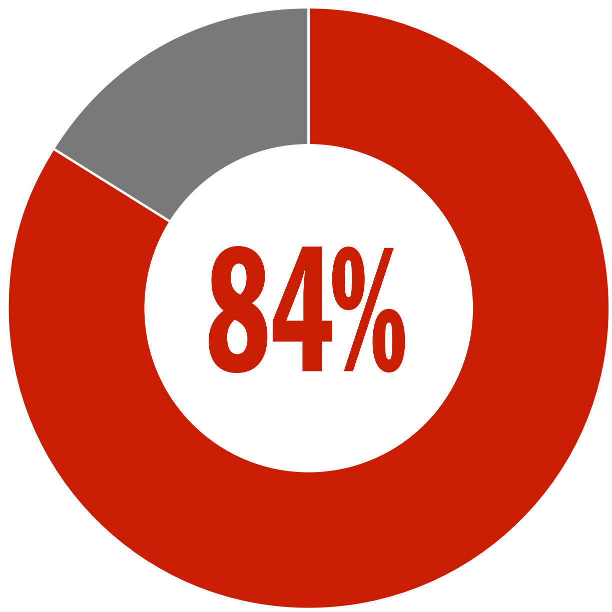


Source: ClickFox © December 2015 Digital Banking Report

Introduction to Optichannel Delivery

According to Protiviti's *2015 Consumer Banking & Payments Survey*, 84% of consumers are still visiting a branch at least once a month — a finding that's sure to enflame the debate raging over the relevance of branches in retail banking. But Protiviti is unwaivering with its assertion: brick-and-mortar locations still connect with consumers.

CHART 13: PERCENTAGE OF CONSUMERS WHO SAY THAT THEY VISIT THEIR BANK'S BRANCH AT LEAST ONCE A MONTH



Source: Protiviti © December 2015 Digital Banking Report

Unfortunately, this significant increase and shift in financial institutions' total customer interactions has not resulted in any measurable improvement in the deepening of customer relationships or in consumer satisfaction. In fact, Accenture research suggests that about 34 percent of the total traditional banking products sold were from institutions other than the consumer's primary bank.

Introduction to Optichannel Delivery

CHART 14: PERCENTAGE OF CONSUMERS WHO FEEL BRANCHES ARE STILL A CRITICAL AND INTEGRAL CHANNEL

Source: Protiviti © December 2015 Digital Banking Report

The unplanned introduction of additional delivery and communication channels has led to a significant increase in operating expenses with very sub-optimal value creation. Customers want to transact with their financial institutions through multiple channels, wherever they are and whenever they want, based on their needs rather than conform to the operating model of their financial institutions.

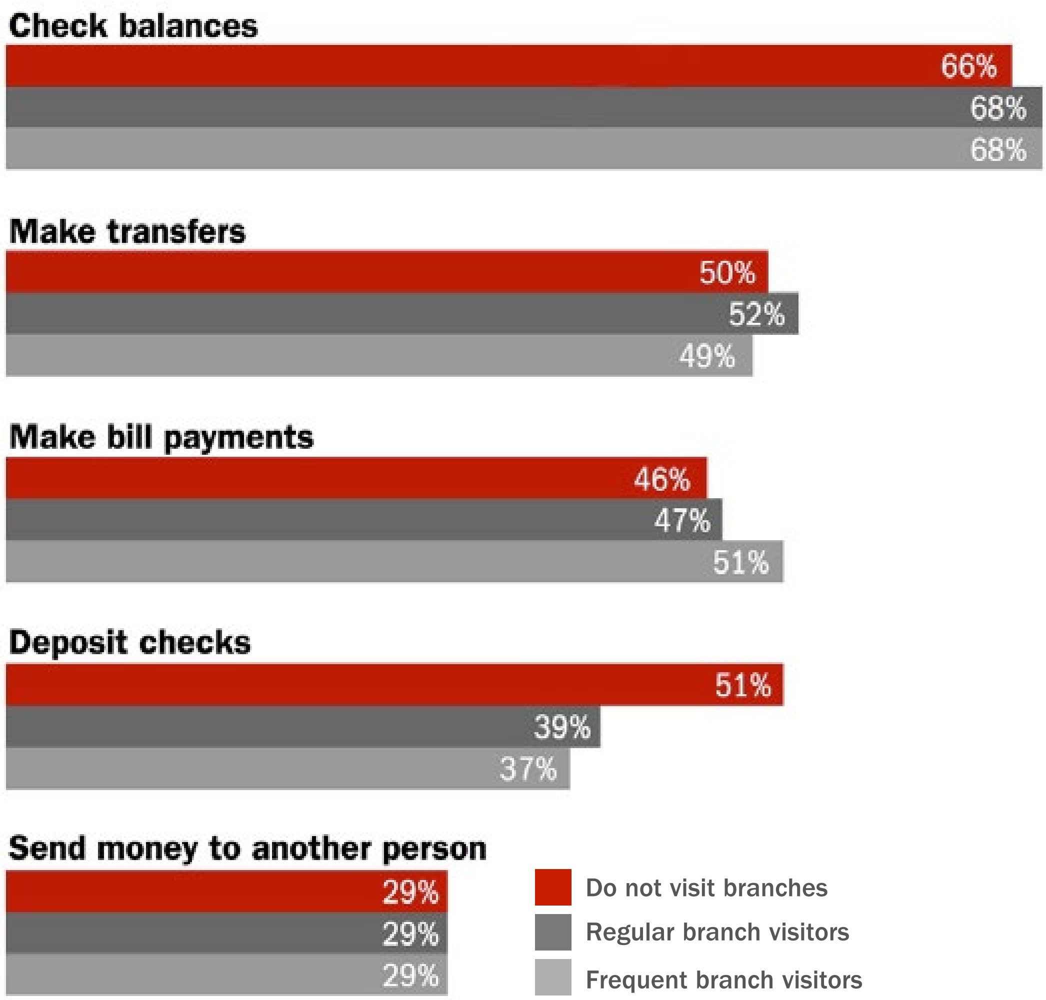
Protiviti cautions that banks and credit unions must formulate their customer-experience strategy around consumers' omnichannel expectations."Many product marketers and IT managers fall into the 'replacement trap,'" Goldberg says. "As in, the mobile channel should replace older, traditional channels, such as branches. They need to be looking at how channels should interact, how products work together."

The study's findings support the assertion that consumers are steadily shifting from a "multichannel" model — where they are expected to use primarily one or two channels from an array of choices — to an "omnichannel" model — where they can move fluidly between multiple options.

"The survey suggests that in the mind of consumers, branches continue to be the place where their money lives, while the web and mobile are applications that direct the movement of that money," adds Goldberg. "Consumers clearly seek an omnichannel experience, where they move within and between channels for product purchases and account servicing and management.

Introduction to Optichannel Delivery

CHART 15: CONSUMERS WHO USE THEIR BANK'S APP OR MOBILE WEBSITE REGULARLY FOR BANKING ACTIVITIES



Source: Protiviti © December 2015 Digital Banking Report

Introduction to Optichannel Delivery

And consumers expect their financial institutions to recognize them and acknowledge their real-time financial needs and status regardless of their choice of channel. However, many financial institutions have built incomplete operating models that improve service without significantly affecting sales … resulting in stagnant customer satisfaction on the one hand, and deteriorating sales force effectiveness and branch productivity on the other.

The operating model for financial institutions, especially regarding distribution, must change to serve digitally empowered consumers. Financial institutions must transform their current operating model in four ways to add significant value for their customers and add significant value for their brands:

- Create a high-touch, fully-integrated consumer experience supporting physical and digital sales and service. Enable consumers to use whatever physical channel or digital device they prefer to transact with you whenever and wherever they please is the key to an 'optichannel' experience.
- Empower consumers with digital tools and content to make a personalized product and service selection and sales fulfillment possible … thus enabling consumers to take control of their financial decisions.
- Empower frontline employees with cross-channel, real-time customer insight and intelligence to support both sales and service needs … dramatically increasing employees' productivity.
- Garner commitment and mandate from upper management and boards in support of the above changes, both financially and emotionally, which must extend throughout the entire organization.

Building a digital-first consumer delivery model that establishes an intuitive sales and service experience map for all core products and services (including well-defined service-level agreements and performance metrics) is the foundation for tomorrow's Digital Bank. The process of mapping out the customer experience will capture the required variations in sales and service delivery by customer segments (for example, the mortgage purchase experience varies significantly based on whether a customer is a first-time home buyer or the customer is refinancing).

Once customers' qualitative and quantitative intra- and cross-channel experiences are mapped by segments and needs and validated, then begins the development of a detailed integration and alignment plan that addresses:

- Cross-channel technology platforms
- Sales and service processes
- Employee goal setting and incentives
- Training and education
- Real-time MIS and advanced analytics

Introduction to Optichannel Delivery

Beyond multichannel (delivery on multiple platforms), or omnichannel (delivery through all channels similarly), an 'optichannel' experience delivers solutions using the best (optimum) channel based on the customer's need and preferred channel. In other words, rather than offering all channels for a specific solution, big data will enable an organization to point the consumer to the channel that will provide the best, personalized, experience.

'Optichannel delivery' may eliminate channels and products as we know them today altogether according to Brett King, best-selling author and CEO of Moven.

— Brett King

"2016 will be the year we start to say goodbye to traditional bank products like the credit card, and fixed deposit, in favor of embedded banking experiences. You'll get emergency cash at the groceries, in-store financing for that new iPhone or VR Goggles, and savings triggered via wearables, with interest rates determined by social media and behavior. None of these will ever have a paper application, need a signature or be based on a card."

— Brett King, best-selling author and CEO of Moven

"The integration of processes from the consumer's perspective is foundational to the optichannel theme. "Rather than looking at channels independently, banking needs to develop and provide financial tools that are integrated in daily life," states **Nicole Sturgill**, Principal Executive Advisor for CEB TowerGroup.

"Digital teams will shift emphasis away from a narrow focus on online account opening towards a more omni-channel view – how digital can work seamlessly with the branch through the purchase funnel, to drive higher awareness, consideration, and purchase, wherever the actual final purchase occurs. 'Bricks and clicks' anyone?"
— Sherief Meleis, Managing Director at Novantas

"After several years of reviewing channel options, many financial institutions are moving from an ideal to a reality in rolling out omnichannel banking, which together with digital banking and analytics initiatives serve as a springboard for deeper customer engagement and delivery of an outstanding customer experience."
— Ed O'Brien, Director, Banking Channels at Mercator Advisory Group

"In the upcoming election year, customers will vote for their preferred bank based on the quality of mobile offering. Organizations that invest more in this technology will see loyalty and revenues grow."
— Deva Annamalai, Director, Innovation and Insights at Fiserv

Introduction to Optichannel Delivery

"The proliferation of channels will begin to consolidate and improve in efficiencies. Account-as-a-Service platforms are a great example of how organizations of all sizes can offer customers a single, optimum channel account experience."
— **Stacey Zengel**, President of Jack Henry Banking

"The digitization of banking will continue to have far reaching implications, as financial institutions work to encourage adoption of self-service options and adapt branch networks to suit the changing ways people access financial services.
— **Kevin Tweddle**, President, Bank Intelligence Solutions at Fiserv

"We are at an inflection point where account openings and advisory services will be delivered remotely. This will represent a fundamental shift, where the physical branch will support the digital channels, rather than the reverse."
— **David Kerstein**, Founder of Peak Performance Consulting Group

---

"The future retail banking and wealth management ecosystems will include simplifying the research content, delivering contextual alerts and designing channels to convey the feeling of thoughtfulness, intelligence and other values that your brand stands for."

— **Jin Kang (Zwicky)**, VP, Experience Design at OCBC Bank

"Banks will continue to consolidate branches, increase self-serve/automation, reduce tellers and add universal bankers to capitalize on relationship building opportunities while dealing with shrinking branch traffic."
— **Alpine Jennings**, Partner at StratAgree

"Community banks will continue to struggle to find the right balance between mobile and the physical branch. Their challenge is to promote digital convenience without creating a sense of moving away from offering a less personal banking experience."
— **Lori Philo-Cook**, Owner of Innovo Marketing

"The biggest story in banking is still capital controls and the need to transform cost. We'll see a continued focus on reducing footprint and increasing automation."
— **Simon Taylor**, VP, Entrepreneurial Partnerships at Barclays

"Designing a 'digital personality' is one of the most significant components to building a competitive advantage in the financial services industry."
— **Jin Kang (Zwicky)**, VP, Experience Design at OCBC Bank

"While innovation and digital channels are important, consumers still love the humans in their branch. Branch evolution will continue where routine transactions move to digital channels, and delivery becomes even more advice-centered."
— **Dominic Venturo**, Chief Innovation Officer at U.S. Bank

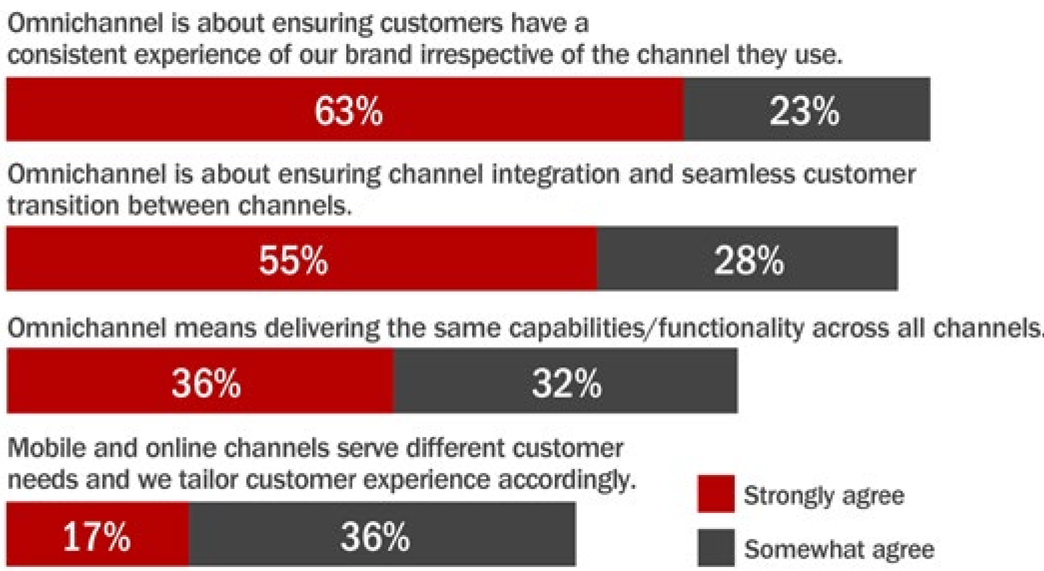
Introduction to Optichannel Delivery

"Many banks will finally realize that their website, if done right, can generate multiple times more leads than their best branch."
— **Chris Nichols**, Chief Strategy Officer at CenterState Bank

In the Celent report, *Defining a Digital Financial Institution: What 'Digital' Means in Banking*, participants in the survey were asked about the degree to which they agree or disagree with a number of statements on 'omnichannel.'

"Banks are in an unequaled position to understand their customers."

CHART 16: BANKING'S PERCEPTION OF OMNICHANNEL DELIVERY



Source: Celent Research © December 2015 Digital Banking Report

The strongest agreement among the respondents is with the statement that "omnichannel is about ensuring customers have a consistent experience of our brand irrespective of the channel they use" — 86% of respondents agreed, with 62% agreeing strongly. This is closely followed by the statement that "omnichannel is about channel integration and seamless customer transition between channels" with 83% of respondents agreeing, 55% strongly.

Banks are in an unequaled position to understand their customers. They already can see product use, transaction patterns and demographic profiles. By leveraging channel usage insight, they can develop an even more detailed customer profile. Understanding not only what the customer looks like, but also how they conduct their banking can allow for improved product offers using their preferred channel.

Introduction to Optichannel Delivery

Developing strategies to integrate disparate digital and physical channels into a single, seamless experience has to be a priority. By analyzing the activity and preferences of their client base, banks can tailor offerings to address the priorities of each individual customer. Mass, low profit segments can be serviced accordingly as can high margin services and clientele.

Streamlined, integrated systems, a single customer view and an optimal customer experience are all objectives to work towards. Banks that focus on these objectives will get the edge over the competition.

So, while the industry and more consumers are trying to embrace the optichannel perspective, the vast majority of new accounts are still initiated in the branch. This is because digital channels don't offer customers the kind of experience they desire for more complex, important interactions like opening an account.

Building a positive optichannel experience remains a work in progress for most banks and credit unions. Research shows that when done well, an optichannel experience can strengthen relationships, streamline the experience and increase profitability.

Unfortunately, most banks, and many customers haven't completely bought in.

Expansion of Digital Payments

Despite the hype, mobile payment usage remains lackluster. Will newly announced partnerships and enhancements drive increased usage, or will acceptance require a major event such as a data breach?

"Even after the release of Apple Pay in the United States in October, 2014 mobile payments have failed to catch fire."

The Fintech world and those that follow payments were definitely excited in October, when Apple Pay hit the market shortly after the launch of the iPhone 6 and 6 Plus. Many thought that the decision by Apple to support NFC would result in a rapid escalation of mobile payments, especially when combined with the previously announced integration of NFC capabilities within Android devices.

So, are mobile payments on the verge of becoming a mainstream alternative to carrying a wallet?

While it's impossible to ignore the hype around mobile payments within the banking industry, consumers are seemingly unfazed by ability to make payments with their smartphones, according to an Accenture survey of 4,000 smartphone users in the United States and Canada. Even after the release of Apple Pay in the United States in October 2014, mobile payments have failed to catch fire.

Accenture identified five trends that reveal the opportunities and challenges defining digital payments:

1. The evolution in ways to pay continues – with no end in sight.
2. Mobile payments awareness is higher than ever.
3. Rewards can speed mobile payments adoption.
4. Peer-to-peer payments are on the move.
5. Connected commerce and the Internet-of-Things is worth watching.

Expansion of Digital Payments

The *2015 North America Consumer Digital Payments Survey* found that while the number of North American consumers who know they can use their phones as a payment device jumped nearly 10 percentage points since last year, to 52%, actual mobile-payment usage remains flat. The percentage of consumers who used their mobile phones to make at least one payment a week grew only 1 percent, from 17% in 2014 to only 18% this year.

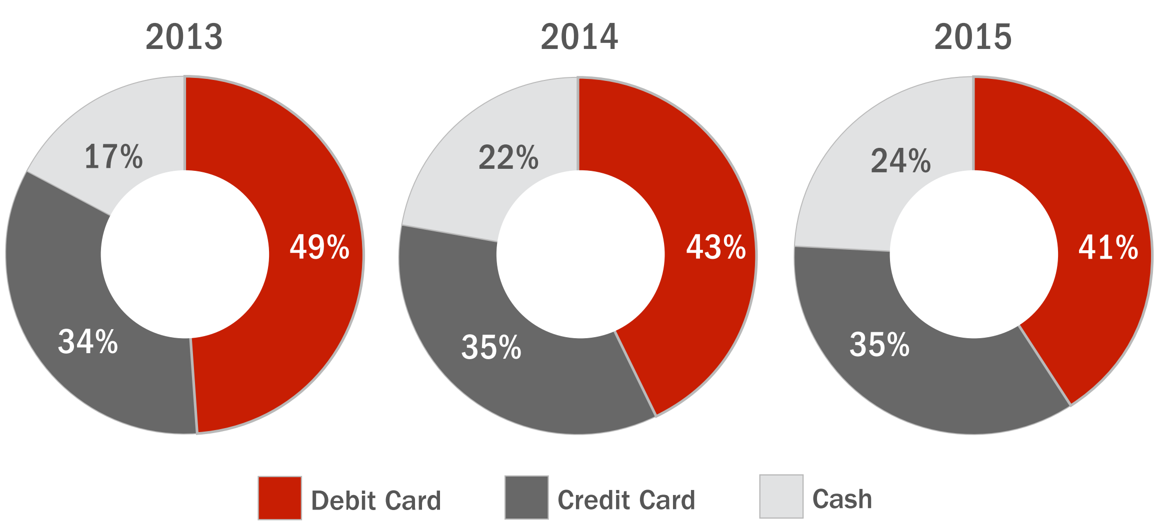
“Though it’s clear that consumers are aware that they can make payments through their phones, continued use of existing payment methods — such as credit cards and cash — and slow retail adoption of modern card readers has caused usage levels to remain stagnant over the last year,” said **— Robert Flynn**, Managing Director for Accenture Payment Services in North America.

“This is a clear indicator to banks and retailers that, although the digital transformation in payments is progressing, there is still a long way to go before we reach broad market adoption.”

While the marketplace continues to change, the consumers’ payment preferences have changed much more slowly. According to the TSYS *2015 U.S. Consumer Payment Choice Study*, debit continues to be the most preferred payment type overall, although to a decreasing degree over the last two years of the study.

Debit cards were the most preferred payment type, although there was a downward trend in those who preferred debit this past year, similar to the trend seen the previous two years. What’s behind this dip in debit popularity? “The reduction in debit appears to be due to respondents preferring cash and PayPal or other alternative payments at a higher rate than that of last year’s study,” the survey stated.

CHART 17: 2015 PAYMENT PREFERENCES

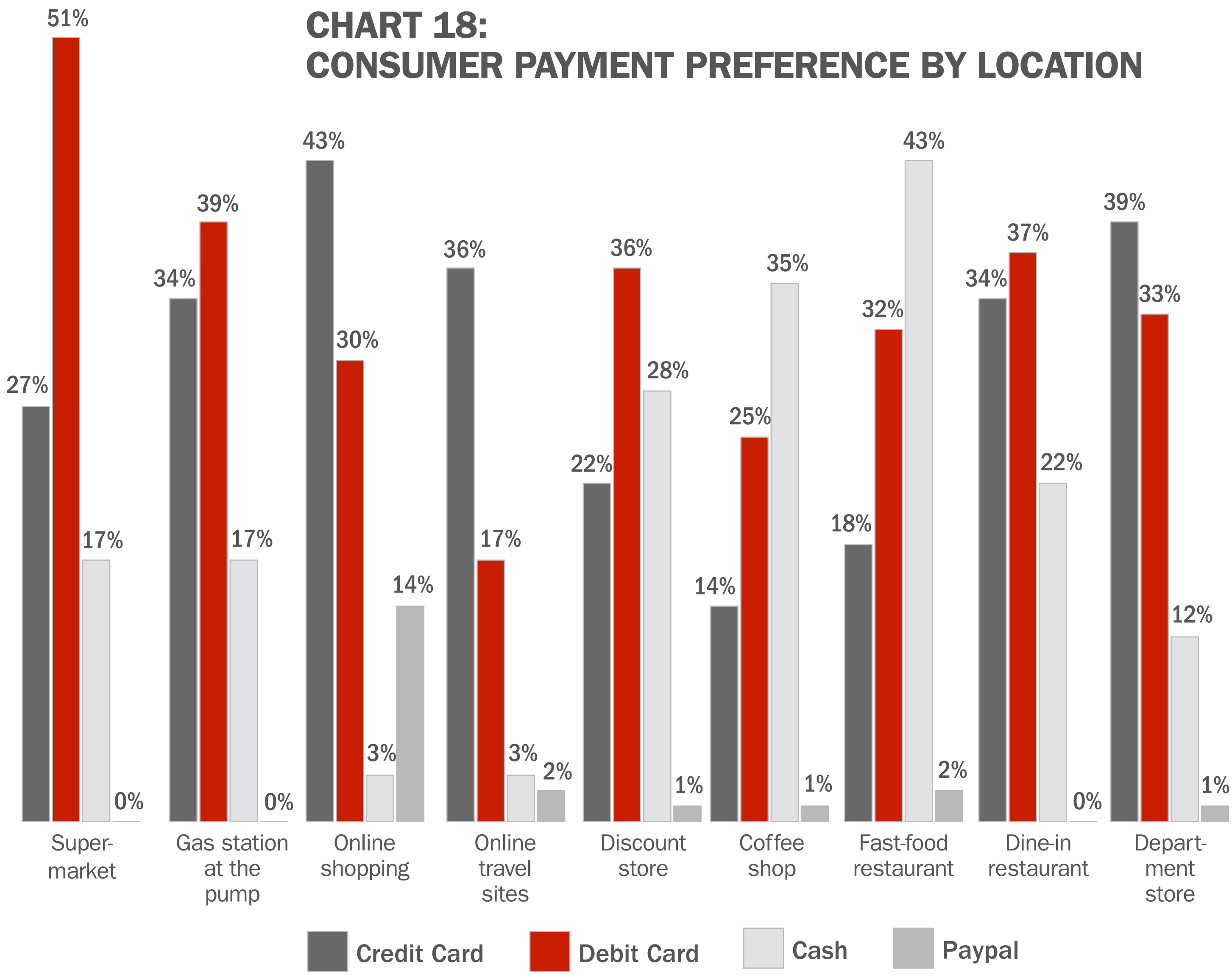


Source: TSYS 2015 Payment Choice Study © December 2015 Digital Banking Report

Another factor that could be influencing debit's popularity is consumers' feelings about payment security. When asked which payment form they feel safest using for online purchases, 34% cited credit cards, 28% said PayPal, and only 17% cited debit cards. Asked the same question regarding in-store purchases, 38% said cash, 27% said credit cards and 24% said debit cards.

Income, age, and merchant type also affect payment preferences. The income segments earning $75,000 or less annually all preferred debit, while those with incomes above $75,000 preferred credit. In terms of the number of credit cards per income bracket, individuals with higher incomes owned more credit cards than those in lower income brackets.

CHART 18: CONSUMER PAYMENT PREFERENCE BY LOCATION



Source: TSYS 2015 Payment Choice Study © December 2015 Digital Banking Report

Aligned with other payment studies, heavy majorities of consumers up to age 34 prefer debit over credit, as did those in the 45-to-54 year-old age group (43% favoring debit versus 32% for credit). The 18-24 age group also preferred PayPal or other alternative payment methods. While the results from the 2015 TSYS research reflected some changes in payment preference, consumers continue to prefer to use debit when making everyday purchases, credit when shopping online or making discretionary purchases, and cash when making small dollar payments. For financial marketers, these preferences are important in developing offers and when integrating geo-targeted marketing

Convenient, personal and on demand, the digital evolution has raised expectations of consumers to want friction-free payments that mesh with their daily lives. As this evolution continues, payment providers must extend the overall payments value proposition which will, in turn, improve the overall consumer experience.

Accenture came to three conclusions around the types of digital payment solutions consumers are seeking.

1. **Simple:** Consumers want to pay simply – one and done.
2. **Personal:** Consumers want payment options that are as individual as they are.
3. **Everyday:** Consumers want seamless, everyday solutions.

CHART 19: REQUIREMENTS FOR MOBILE PAYMENTS AND MOBILE WALLET

Source: Accenture © December 2015 Digital Banking Report

Part of the problem may be confusion, according to **— Bradley Leimer**, Head of Innovation, Santander Bank, NA. “Everyone seems to be building a wallet, a loyalty app, and value added services around payment data. And to consumers and merchants, it’s a complete mess.”

Expansion of Digital Payments

These same concerns prompt **— Alex Jimenez**, Digital Banking and Payments Strategist, to state, "Mobile payments will continue to increase in adoption, but it won't set the payments industry on fire – we are still a while before a tipping point in mobile payments."

— Chris Skinner

"For the past few years, a number of technologies have been rising in a perfect storm: cloud, Big Data, mobile apps and more. In 2016, the eye of the storm will hit as we see a massive focus upon mobile wallet development to increase usage from Chase, Samsung, Apple and Google wallets."

— Chris Skinner, best-selling author and President of the Financial Services Club

"As the digital payments trend continues, security remains a top concern to consumers. This year's EMV compliance deadline in the U.S., combined with the launch of several new mobile wallets including Chase Pay, Samsung Pay and Android Pay, means it is essential to continue developing new strategies for fraud detection and prevention."
— Chuck Fagan, CEO of PSCU

"The continued growth of digital payments and the change in ACH processing, specifically real time capabilities, will result in financial institutions coming to terms that they must evolve. I predict the potential for more standardization in how payments are processed as well."
— Howie Wu, Vice President of Digital at BECU

"Payments getting shoved into everyday things like wearables disguises the more important effort of representing a beachhead in establishing trust between devices, by using tokenization as the vehicle to store items of value in untrusted devices."
— Cherian Abraham, Director, Mobile Commerce and Payments at Experian Decision Analytics

"In Africa and Asia, we will see digital/mobile money systems inter-connecting, using the network effect to seek volumes and scale. These systems will extend to merchants. Some of these systems will form regional multi-currency hubs. East Africa will be the hotbed for such innovations, probably laying the ground for a new digital economy in the years ahead."
— Kosta Peric, Deputy Director, Financial Services at Bill & Melinda Gates Foundation

"The uncertainty of whether to swipe or dip, and the additional time it takes to process the transaction will push many to give their mobile pay app a try. I would not be surprised to see a doubling in the use of mobile payments."
— James Anthos, Senior Vice President at BB&T

Expansion of Digital Payments

"2016 will see demonstrably higher payment volume from Apple Pay and others – more so through when bill payment providers are integrated in-app, as compared to P2P or retail"
— Cherian Abraham, Director, Mobile Commerce and Payments at Experian Decision Analytics

"More payments will move to wearable devices as manufacturers incorporate token payment support. Mobile overall grows, as more retailers will adopt contact-less payment support."
— Dominic Venturo, Chief Innovation Officer at U.S. Bank

"By the end of 2016, I predict that 8 of the top 11 retailers will announce a mobile wallet, while less than 5 of the remaining top 100 retailers will do the same. In addition, 6 of the top 10 U.S. card issuers will announce a mobile wallet, with at least one of the credit union associations announcing a mobile wallet that can be leveraged by any of their members. Finally, I think Microsoft will announce a wallet along with at least 1 Telco."

— Peter Olynick, Card and Payments Practice Lead at Carlisle & Gallagher

---

Albeit at a slower pace than the media would lead consumers to believe, the industry is making progress. Accenture reports, "As consumer awareness and confidence grow – and more merchants modernize their point-of-sale infrastructure – the pendulum will continue to swing to mobile payments."

Consumers are looking beyond payments transactions when choosing payments providers. They want an experience as individual as they are. Banking organizations at the forefront will emphasize the customer experience as much as – if not more than – pure payments transactions.

"Consumer appetite for better ways to pay is clear, Accenture told The Financial Brand. "While cash is still king today, our survey shows that by the end of the decade, use of cash will continue its decline and digital payments will increase. To win in digital payments, providers must keep it simple, make it personal, and ensure that payment methods are seamlessly integrated into everyday life. Revenue models focused on transaction volumes, at the least cost, will be in a race to the bottom when competing with digital payments."

Executing on Innovation

With the perceived threat of disruption in retail banking growing due to the influx of tech companies, start-ups and even new banking organizations, the banking industry is responding aggressively to these new threats by increasing innovation investment.

"The question is whether banking can replicate the best of fintech startups,while leveraging their customer base scale advantage to respond to a changing market-place."

Increasing consumer expectations, the influx of fintech competitors and the reduction in margins are forcing banks to rethink their current business models and sources of revenue. Although innovation is a proven path to differentiation and competitiveness, the banking industry's short-term focus, siloed approach to operations and risk-averse culture work against the potential for meaningful advancements.

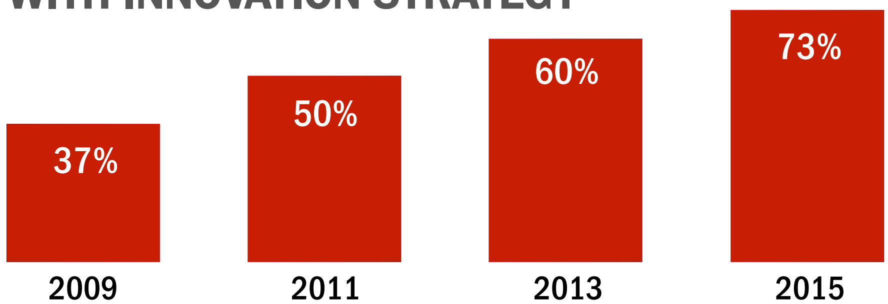
Start-ups embody the core principles of innovation to drive commercial success. They embrace risk-taking and failure, while rewarding success. They are agile and can pivot immediately to meet market demand. Because they are usually small, they can think big. But because they are small, scalability can be a challenge.

The question is whether banking can replicate the best of fintech start-ups, while leveraging their customer base scale advantage to respond to a changing marketplace. Or, will the majority of the industry need to be a fast-follower or laggard … with the inherent risks?

In the *7th Annual Innovation in Retail Banking Report* from Efma/Infosys Finacle, which surveyed over 100 retail banks around the world, approximately three quarters (72%) regarded the threat from technology companies, start-ups, retailers and/or telecom players as high or very high. In response, investment in the innovation process has increased significantly across the industry

According to the Efma/Infosys Finacle study, the proportion of banks with an innovation strategy (defined as having clear objectives, processes and measures of success for innovation) has increased from 37% in 2009 to 73% in 2015. When viewing the commitment to innovation from year to year, the proportion of banks increasing their innovation investment over the previous year was 15% in 2009, increasing to 84% in 2015. The biggest increase in commitment to innovation occurred in the period from 2009 to 2011, but there has still been a steady increase in this measure since 2011.

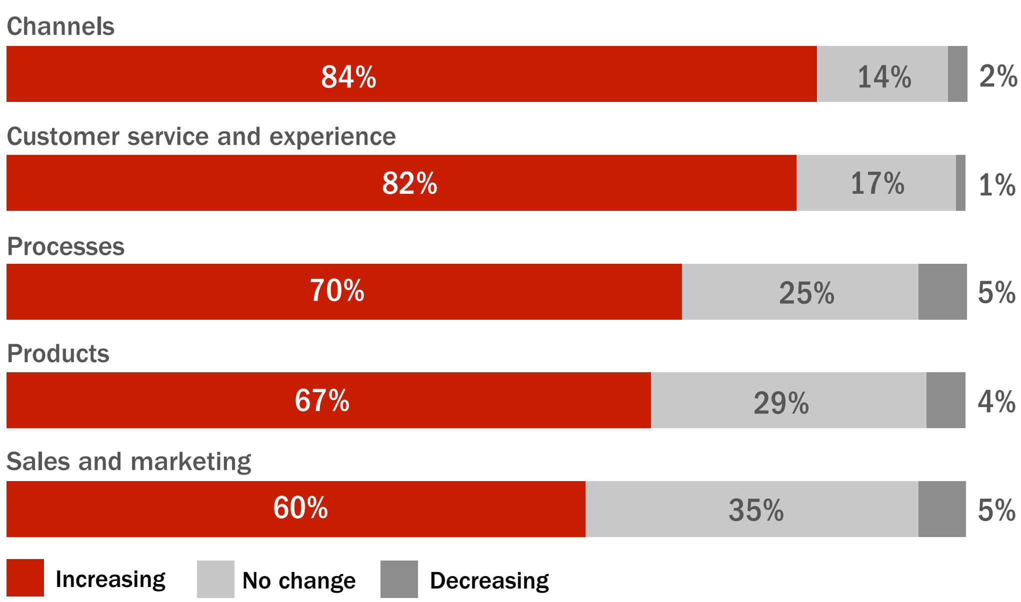
CHART 20: PERCENTAGE OF BANKS WITH INNOVATION STRATEGY



Source: Efma-Infosys Finacle © December 2015 Digital Banking Report

Similar to what was found in the *2014 Innovation in Retail Banking Study*, the percentage of banking organizations increasing investments were the most pronounced in the categories of 'Channels' (84% in 2015 vs. 89% in 2014) and 'Customer Service and Experience' (82% in 2015 vs. 78% last year). While the relative importance of the different areas has changed very little in the last few years, there does appear to be a slight shift in emphasis from channels to customer experience since 2014.

CHART 21: CHANGE IN INNOVATION INVESTMENT BY AREA OF BANK



Source: Efma-Infosys Finacle © December 2015 Digital Banking Report

Executing on Innovation

The 2015 survey found a significant divergence in the overall innovation objectives being set by banks worldwide. While 45% indicated a desire to be an 'innovation leader', 36% were comfortable being a 'fast follower'. Interestingly, both of these percentages were lower than last year. As was noted by this year's report authors, "Being a fast follower is not necessarily a bad strategy as the first to market is not always the most successful in the long term and you can learn from the mistakes of others."

According to **James Haycock**, Managing Director of Adaptive Lab and Co-author of the book, *Bye, Bye Banks?*, "There's been a lot of hype about innovation and the banks are investing heavily, but the consumer has yet to see much of the outcomes. The struggle is access to customer data through bank's legacy technology, the comfort with being more experimental due to the risk of brand damage, escalating research and development costs, and the underlying conservative culture of banking."

Maria Jose Jorda Garcia from BBVA believes the tide is turning, "I believe that after this tactical and in some cases uncontrolled year of investments trying to be part of the innovation game (fintech investments, open competitions for banking challenges, creation of innovation boards, structures and tools to generate ideas, and in some cases, partnerships or acquisitions), 2016 will be the year we see banks trying to get value out of those investments."

"2016 will see the construction of larger sandboxes by the banks. The current legacy infrastructure doesn't allow for enough play with fintech partners. No play, and no room for real experimentation, results in no real change."
— Sam Maule, Emerging Payments Practice Lead at Carlisle & Gallagher

"Decentralized IT and blockchain fintech startups will be a focus area for VCs, and in general, VC focus will change from B2C to B2B. Security, analytics and artificial intelligence are areas of special interest."
— Frank Schwab

"We'll see more large financial firms investing in internal business incubators and innovation labs and pursuing research and development between their own walls. This will include bringing more design capabilities in-house. These trends will require a culture shift and more courageous enterprise risk management policies"

— Tim McAlpine, President & Creative Director, Currency Marketing

---

"More banks will open up their APIs, and there will be more innovation labs operating within financial organizations, which will enable experimentation with start-ups and new innovation technologies."
— Elizabeth Lumley from London MD Startupbootcamp Fintech

Executing on Innovation

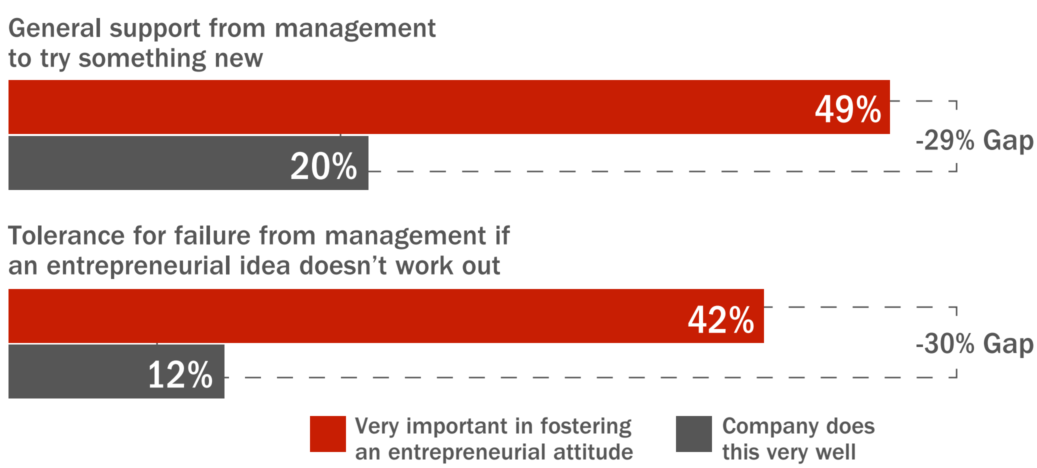
"Innovation programs and incubators at large banking organizations will increasingly start paying off, with a number of banks launching homegrown offerings that get serious traction."
— Nick Bilodeau, Head of Insurance for Canada at American Express

Building a 'culture of innovation' is most likely at the top of most banking organization's corporate agendas. There is no denying that a firm's own employees are uniquely positioned to understand both their customers and their own organization.

Unfortunately, while many organizations say they are increasing their efforts to build a work environment that inspires innovation and creativity, research indicates that many corporations may have a surplus of ideas that aren't being nurtured. Worse yet, a risk-averse approach to innovation is creating incremental improvements rather than the level of innovation needed to generate meaningful ROI. Finally, the structure of banking makes the entire process too slow, resulting in lost revenues.

In a research report from Accenture entitled, *Corporate Innovation Is Within Reach: Nurturing and Enabling an Entrepreneurial Culture*, nearly half the employees (49%) said management support was very important to the generation of entrepreneurial ideas, while only 20% believed their company delivered it. And although 42% considered tolerance of failure from management as very important, only 12% thought their company was good at doing so.

CHART 22: SUPPORT FOR INNOVATIVE IDEAS FROM MANAGEMENT



Source: Accenture © December 2015 Digital Banking Report

Executing on Innovation

When asked what the biggest barrier to entrepreneurialism was at their organization, approximately one-third (36%) believed their job keeps them too busy to pursue new ideas, with 20% saying it's the lack of management support for trying new things, and 13% saying their company does not provide incentives or other monetary compensation for generating successful ideas.

Finally, three in four (77%) said that new ideas are rewarded only when they are implemented and proven to work. As a result, more than 27% had avoided pursuing an idea with their company for fear of 'negative consequences'.

With the ongoing onslaught of outside fintech firms competing in all business categories, financial organizations must take steps to centralize, internalize and prioritize the innovation process. Some suggestions include:

- Assess the innovation culture and process within the organization to determine if new ideas are encouraged and rewarded.
- Determine how innovation can be integrated and aligned within the overall business strategy of the organization through innovation road maps, measurement processes and a rewards structure.
- Publicize the innovation culture within (and outside) the organization. Make sure this culture begins at the very top of the organization.
- Create opportunities and incentives for innovation and idea development.

The banking industry is faced with the risk of disruption from many known and unknown sources. How organizations respond is critical to continued success and ultimately, their existence.

Most banking organizations may need to look no further than their own employees for innovative ideas. While potentially being overwhelmed by ideas that may have limited impact or revenue/cost benefits, it is still imperative to harvest ideas with potential.

If the banking industry is going to keep up with the new upstarts and fintech entrepreneurs, organizations need to find ways to cultivate, nurture, implement and reward ideas swiftly. The key is to avoid dampening innovative spirit while aggressively culling ideas with less chance of success, selecting innovative ideas that will generate returns.

WHAT MAKES AN INNOVATIVE LEADER?

Accenture examined seven key characteristics shared by innovation leaders across industries and explained how banks can use these insights to improve their innovation capabilities in their report, *Innovation Excellence: What Banks Can Learn from Top Innovators in Other Industries.*

1. **Put the Customer First:** Innovative organizations use all tools available to understand their customer's needs and behaviors. They invest in capturing insights from internal and external data sources and build models to enable contextual decision making and communication.

2. **Integration of Innovation Strategies with Business Objectives:** The most successful financial institutions invest in innovations that are consistent with overarching business strategies. This includes establishing clear ownership and accountability for results.

3. **Establish an Innovation Culture:** Without top-level management support for innovation, risk-taking, networking and collaboration (including a meaningful measurement and rewards structure), it is difficult for an organization to achieve the spirit or success of smaller and more agile fintech firms.

4. **Embrace Internal and External Collaboration:** The most successful innovators take advantage of new ideas both inside and outside the organization. In fact, it is becoming more commonplace for innovation labs to be built within banks while at the same time making investments in new fintech firms outside of traditional banking.

5. **Provide a Structured and Disciplined Environment:** To be effective, innovation process must run quickly and efficiently and need to be separated from the normal banking silo structure that slows the process. There must also be a redefinition of metrics and incentives that may seem to run counter to traditional performance metrics.

6. **Focus on Speed to Market:** Swift execution of innovative ideas is imperative to maximize ROI. Successful organizations aren't constrained by customary ways of doing things.They remove the words 'no' and 'cannot' from their vocabularies, and instead focus on finding a way to succeed. They also utilize small, focused project teams.

7. **Put Technology Front and Center:** Give your teams the tools to succeed. Investing in flexible and Agile technologies allows financial organizations to adapt quickly, increase speed to market with new business models and reduce overall IT costs. The key is to fail fast and fail cheap.

Exploring Advanced Technologies

Digital connectivity of everyone to everything, anywhere, and at any time – and the ability to analyze and use this data in all aspects of daily life – provides opportunity and challenges. How the financial services industry responds to these massive changes will determine the success of institutions and the industry as a whole.

The impact of digital technology in financial services over the past several years mirrors the dramatic impact on the economy as a whole.

There is no question that technology is changing banking. From online, to mobile, to wearables, the advancements in digital technology are moving faster than most banking organizations can handle. This wasn't lost on our panel of experts, as they looked into their crystal balls to make educated guesses as to what we could expect in 2016.

The impact of digital technology in financial services over the past several years mirrors the dramatic impact on the economy as a whole. And, while industry leaders are trying to determine the implications of these changes, and best prepare for the developments that are on the horizon, most of us are not fully cognizant of the massive changes to come.

To provide a better perspective, the World Economic Forum conducted a study entitled, *Deep Shift: Technological Tipping Points and Societal Impact*, based on the views of 800 worldwide experts and executives. This report looks into the timing and impact of 21 game-changing 'tipping points,' or moments when a specific technological shift may hit mainstream society. In the study, the first tipping point was predicted for 2018 and the last for 2027.

Exploring Advanced Technologies

CHART 23: EXPECTED TIMING OF KEY TECHNOLOGICAL 'TIPPING POINTS'

2018	2021	2022	2023	2024	2025	2026	2027
Storage for All	Robot and Services	The Internet of and for Things Wearable Internet 3D Printing and Manufacturing	Implantable Technologies Big Data for Decisions Vision as the New Interface Our Digital Presence Governments and the Block-chain A Supercom-puter in Your Pocket	Ubiquitous Computing 3D Printing and Human Health The Connected Home	3D Printing and Consumer Products AI and White Collar Jobs The Sharing Economy	Driverless Cars AI and Decision Making Smart Cities	Bitcoin and the Block-chain

* **Expectations of when key technological shifts will hit mainstream society as collected from 812 executives and experts from the information and communications technology sectors.**

Source: World Economic Forum © December 2015 Digital Banking Report

The survey results were also analyzed to see what percentage of respondents expected any of the tipping points to have occurred ten years in the future, More than half of the 21 tipping points had a high expectation (over 80%) of occurring by 2025.

For instance, over 90% of respondents believed at least 10% of people will be wearing clothes connected to the internet and will have unlimited and free digital storage by 2025. Sounding like something out of a sci-fi movie, more than 80% of those surveyed also believed we would have a 3D printed car and an implantable mobile phone within ten years.

Exploring Advanced Technologies

By combining the tipping point with the 'expected date' and '% by 2025,' it is possible to see a better vision of what the future may hold. While the report is intended to improve the understanding of the major technological changes in the future, it is more important to determine which changes will impact any given industry … like banking.

CHART 24: TECHNOLOGICAL TIPPING POINTS EXPECTED TO BE MAINSTREAM BY 2025

	%
10% of people wearing clothes connected to the internet	91.2
90% of people having unlimited and free (advertising-supported) storage	91.0
1 trillion sensors connected to the internet	89.2
The first robotic pharmacist in the U.S.	86.5
10% of reading glasses connected to the internet	85.5
80% of people with a digital presence on the internet	84.4
The first 3D printed car in production	84.1
The first government to replace its census with big-data sources	82.9
The first implantable mobile phone available commercially	81.7
5% of consumer products printed in 3D	81.1
90% of the population using smartphones	80.7
90% of the population with regular access to the internet	78.8
Driverless cars equaling 10% of all cars on U.S. roads	78.2
The first transplant of a 3D-printed liver	76.4
30% of corporate audits performed by AI	75.4
Tax collected for the first time by a government via a blockchain	73.1
Over 50% of internet traffic to homes for appliances and devices	69.9
Globally more trips/journeys via car sharing than in private cars	67.2
The first city with more than 50,000 people and no traffic lights	63.7
10% of global gross domestic product stored on blockchain technology	57.9
The first AI machine on a corporate board of directors	45.2

Source: World Economic Forum © December 2015 Digital Banking Report

Exploring Advanced Technologies

Access to insight has never been easier, but the consumer is expecting their trusted partners to know them, look out for them and reward them based on the insight they share.

Access to insight has never been easier, but the consumer is expecting their trusted partners to know them, look out for them and reward them based on the insight they share. More importantly, they expect this contextual experience 24/7/365, in real-time and through multiple channels including their computer, their smartphone and even through wearable devices.

With data generated with every tap on a device and every step we take and digital conversation we have, what will be the acceptable level of privacy provided? With accessibility enhanced and a path to almost everything possible on the internet, how can we sufficiently protect intellectual property or secure financial data?

As artificial intelligence becomes more proficient at replicating the more basic levels of employment, what happens to human interaction and the delivery of products and services by financial institutions? According to an Oxford study, the advent of artificial intelligence could lead to almost half of all current jobs being computerized. How will banking adjust to these changes across the economy?

For those jobs that remain, a new set of skills and competencies will be required. In the future, all companies will be technology companies and all employees will be data technologists.

It is virtually impossible to understand fully the speed that these changes will occur. What isn't difficult to see is that technology is changing the way we interact and communicate faster than ever in history. This requires a level of proactive preparedness that will allow us to understand the changes and implications of changes for survival.

While there will be a great deal of debate as to the likelihood of any of these trends gaining traction in the next 12 months, most panelists believe the debate can only be around timing.

— Blockchain

According to an excellent overview done by **Simon Taylor** from Barclays, blockchain technology presents both opportunities and obstacles. "While it's clear that the security and controls associated with blockchain technology will need development before many of these applications can become mainstream, the opportunities are so significant that it's a question of when, not if, these applications will emerge," said Taylor. "The technologies around bitcoin have the potential to transform many different processes, and companies should be discussing these developments at the board level and asking how this technology could help them and whether they should be investing in it."

"Blockchain for shared ledger structures will be a hot topic for 2016, as it enables any financial counterparties to exchange value with trust in real-time for almost free, stated **Chris Skinner**, best-selling author and President of the Financial Services Club. "This has been discussed in 2015, but will make an even more dramatic impact in 2016."

Chris Fleischer, Market Research Manager for D+H, has a more pragmatic perspective, “While the industry is exploring the innovative potential of blockchain technology, the great majority of banking firms are focused on ‘blocking and tackling’ trends that might not be as sexy, but impact the operations daily and for the foreseeable future.”

— Kosta Peric

“The distributed ledger architecture will see the first real world applications with instant settlements between financial providers along some high-volume cross-border routes. Another application will be notarization of physical or digital assets. Finally, I predict the availability of digital lockers accessible through biometric authentication, and again they may come first in Asia or Africa.”

— Kosta Peric, Bill & Melinda Gates Foundation

“Blockchain technology will move into the correspondent banking business, with a community-lead approach:
- Financial inclusion in developed markets, focusing on the underbanked & millennials.
- Financial Inclusion for the underbanked with an unprecedented focus.
- Crowd funded micro insurance in emerging markets.”

— Matteo Rizzi, Co-founder of FinTechStage Limited

“I see the progress in blockchain and distributed ledger technology in 2016 … with 2016 potentially being the first year of ‘blockchain banking’.”
— Roberto Ferrari, General Manager at CheBanca!

“The race to establish open standards tech stacks in the blockchain space will accelerate and leave casualties in its wake. The casualties will be those that want to own the entire stack and intend on having banks and markets captive to their solutions.”
— Pascal Bouvier CFA, Venture Partner at Santander InnoVentures

— Robots and AI

The primary opportunity for robots and AI tools in the banking industry at this time is that they can extend the creative problem-solving capabilities and productivity of human beings and deliver superior business results, states Cognizant in a report on the use of this new digital technology. Their research shows that through these technologies, humans have the potential of attaining new levels of process efficiency, such as improved operational cost, speed, accuracy and throughput volume.

The opportunity for cost savings is the first place where AI and process automation will impact banking. In the Cognizant study, 26% of banking respondents stated they have enjoyed 15%-plus cost savings from automation in their front office and customer-facing functions compared with one year ago, and 55% expect those same levels of savings (15% or more savings) within the next three to five years.

Exploring Advanced Technologies

According to Cognizant, the top drivers for automation beyond cost savings include:

- Reduced error rates (21%)
- Better management of repeatable tasks (21%)
- Improved standardization of process workflow (19%)
- Reduced reliance on multiple systems/screens to complete a process (14%)
- Reducing friction (11%)

"Less than a month after Google introduced public APIs for its AI engine, Facebook followed suit and **Elon Musk** led the $1B founding of OpenAI. Together, they accelerated and democratized the development of AI by a decade, with finance most likely going early."
— **Neff Hudson**, Emerging Channels Executive at USAA

"Advances in machine learning and AI's will start infiltration of financial processes. They will asses risk and reward. AI's will not only provide solutions for customers, they will also integrate with processes such as compliance, information security and more."
— **Mike D. King**, Owner of Bankwide

"While AI won't get quite to the levels of hype that blockchain is receiving, AI has the potential to really move the dial on operating costs and bring the power of digital servicing to the masses through natural language processing and interactions."

— **David Brear**, Chief Thinker at Think Different Group

"Robotics will be used more in banking services – physical robots in the branch environment and software robots in customer advice and back office processing will become more the norm."
— **Makoto Shibata**, Head of Global Innovation at Bank of Tokyo-Mitsubishi UFJ

— Internet of Things

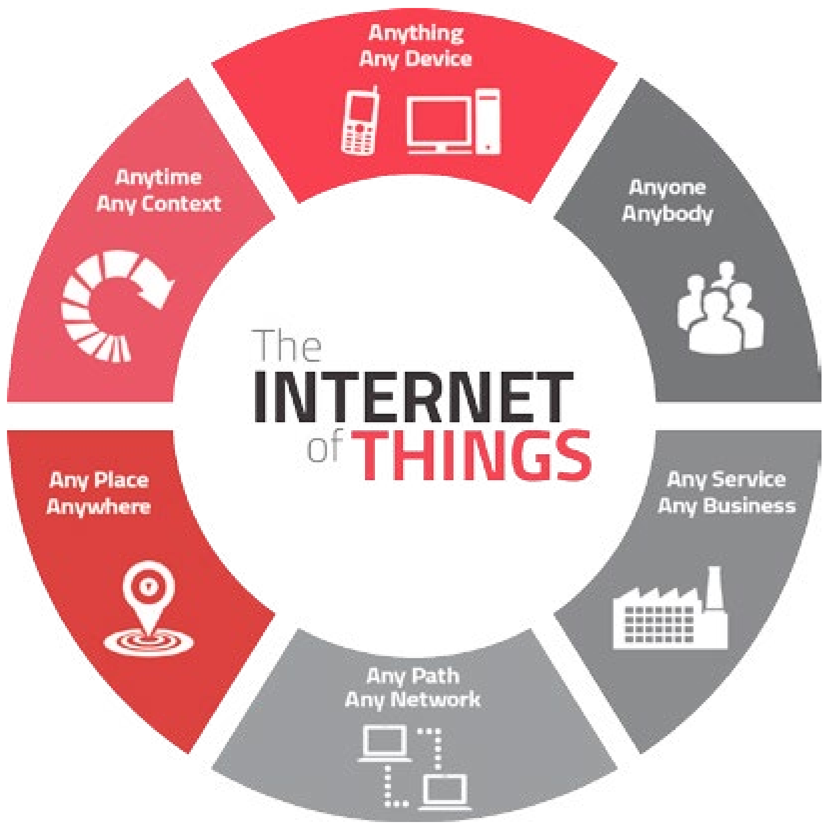
The Internet of Things is defined as a way for devices that are connected to the Internet to communicate and share information with other 'smart' devices in real time. In context, these sensors would leverage the capabilities of big data, analytics and even artificial intelligence to anticipate needs, solve problems and improve efficiency.

Estimates of the size of the IoT market vary. Analysts and technology providers forecast added economic value of anywhere from $300 billion to $15 trillion by decade's end. And FSIs will most likely be active participants in this transformation.

We already have products that use sensing and communication technologies in a range of consumer sectors, such as self-driving cars, 'smart' appliances and geolocational sensing on mobile phones. We are also seeing applications in business, with assembly line management being a focal area.

With the benefits of IoT comes challenges such as in the area of security and privacy. With the explosion of devices and sensors, cybersecurity takes on a whole new dimension – not just for institutions but also for consumers. With more digital connections and information being transmitted, digital vulnerabilities are likely to expand exponentially.

CHART 25: INTERNET OF THINGS NETWORK



Source: IOTWORM © December 2015 Digital Banking Report

What does the flow of IoT-generated insight mean for financial services? Many firms are already using sensor data to improve customer experience, product development and back-office performance. While contrarians may argue that the IoT may have only a minimal impact in the foreseeable future, others disagree.

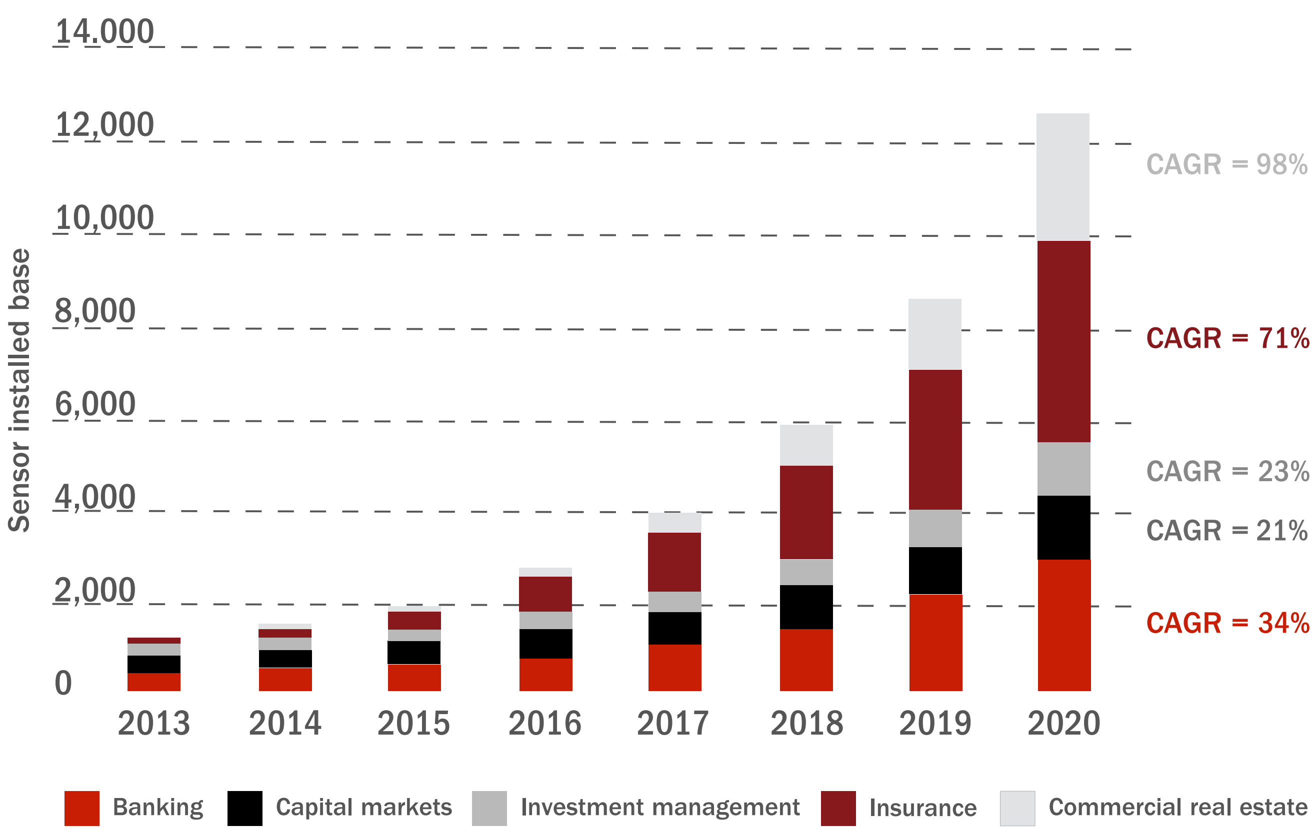
"By enabling the collection and exchange of information from objects, the IoT has the potential to be as broadly transformational to the financial services industry as the Internet itself," states **Jim Eckenrode**, Executive Director of the Deloitte Center for Financial Services and the Author of the Deloitte report, *How Financial Services Can Make IoT Technology Pay Off.*

Exploring Advanced Technologies

Gartner forecasts that, on a worldwide basis, "endpoints of the Internet of Things will grow at a 32.5% CAGR from 2013 to 2020, reaching an installed base of 25.0 billion units." Covering more than 200 different categories of sensors, across consumer, business, and vertical-specific categories, the forecast suggests a broad expansion of deployments between now and the decade's end.

Obviously, with the deployment of 25 billion new endpoints, there will be opportunities for all industries, including banking. The Deloitte analysis suggests that as many as one-quarter of sensors deployed in 2013 could be of use to FSIs, rising to one-third in 2015 and then to about 50% by 2020.

CHART 26: PROJECTED GROWTH OF IOT SENSOR DEPLOYMENT BY FINANCIAL SERVICES CATEGORY (MILLIONS)



Source: Deloitte and Gartner © December 2015 Digital Banking Report

Exploring Advanced Technologies

"It seems to me that there are probably three main ways that banking will intersect with the Internet of Things in the foreseeable future, says **Dave Birch**, from Consult Hyperion. "The first, and to me most interesting, is the issue of identification and authentication. This is an area where banks ought to be able to deliver interesting new services to customers, building them around the idea of safekeeping and privacy. The second is in terms of instrumentation for risk management. The third may be in the area of payments."

"The impact a connected world will have on our daily habits is as large as the Internet itself. As mobile connectivity brought the world of information and context to our daily life, autonomous devices will start driving new value into our life to save the most precious commodity of all – time."
— Bradley Leimer, Head of Innovation at Santander Bank, NA

"The Internet of Things" (Iot) will slowly come of age and offer opportunity to innovators in fintech and financial services. Much of this will be driven by mobile and our on-demand economy, which will result in the 'uberfication' of everything."
— Bryan Clagett, CMO of Geezeo

— Authentication

One of the major hurdles to digital banking acceptance is the concern about mobile risk and fraud. It is the financial marketer's responsibility to ensure that their banking organization has an authentication process that is both easy and secure.

If financial marketers want to capture more of the growing, profitable, 'mobile-first' consumer segment, they need to support work on improving identity verification and authentication to protect their organization and their customers/members from fraud. And, to truly be successful, bank and credit union marketers must lobby internally for ID verification processes that are quick and easy to fit with consumers' mobile expectations.

Processes that are too onerous for mobile users will cause consumers to abandon the process or purchase, meaning lost sales or fewer new customer accounts for your bank or credit union. The good news is that there is a new generation of mobile verification/authentication technologies allow financial organizations to effectively balance security and usability.

When it comes to verification/authentication, the key to keeping the process convenient for the mobile consumer is to ensure that the solution can do the following:

- Keep the consumer in the mobile channel.
- Take place in near real-time with little lag.
- Require little to no manual data entry from the user.
- Run in the background and remain invisible to the user (as much as possible).
- Pair with an additional layer of security (e.g. biometrics) for a second factor of authentication.

Using these five guidelines for end-user convenience, most organizations can create a mobile authentication process that is both simple and secure.

Some organizations are already looking at adding ID verification steps to all their mobile processes. For instance, Canadian-based Tangerine announced plans to bring Voice Banking and Touch ID to their mobile apps. These new biometric technologies give Tangerine clients the ability to bank with their voice and use a fingerprint to log in for added security.

Peter Aceto, president and CEO of Tangerine called out these new security features specifically for being, "simple and innovative solutions" suggesting that the bank appreciates the importance of maintaining the mobile experience that users expect in this channel.

Going beyond voice banking and Touch ID authentication, MasterCard began experimenting with facial recognition to approve mobile purchases. When discussing why MasterCard turned to facial recognition to address the company's security challenges, they said, "The new generation, which is into selfies … I think they'll find it cool. They'll embrace it."

"The trend that stands out for me in 2016 is the renewed focus and interest around authentication and digital identity. Apple led the way in showing how device-based biometric authentication can be used in payments. We will see increasingly more banks exploring how similar approaches can be used to authenticate customers for a broad range of activities."

— Zilvinas Bareisis, Senior Analyst for Celent

Andra Sonea, Lead Solutions Architect at Lloyds Banking Group agrees, "A true banking 'customer view'/identity does not exist in a way that it should in a digital business – authenticated, rich, accessible in real-time for making real-time decisions. I can just hope that we will see some focused work in this respect as the current technology allows us to do things we didn't even dream of in banking."

"Both the complexity and tediousness of such a task for the service provider implies that we will see a 'Stripe for KYC' very soon, who will wrap 'Know Your Customer' (KYC) processes to perform the function in the most clean, and scalable manner," added **Cherian Abraham** from Experian Decision Analytics.

As consumers increasingly turn to their mobile devices as their preferred channel for banking, shopping, payments and opening new services, financial brands and specifically, financial marketers, will need to look for ways to improve authentication through the mobile channel.

The right digital ID verification solutions not only help reduce the risk of fraud but can also increase sales, capture more new customers and improve the user experience, as consumers feel more secure using their mobile device and as they find the additional security easy to integrate into their daily lives.

Emergence of a New Breed of Banks

As legacy banks deal with outdated core systems and processes steeped in tradition, more and more challengers are entering the competitive fray, willing to fill the gap in digital expectations of an increasingly mobile consumer.

The term 'challenger bank' is widely used as a description of a banking organization, started from the ground up, and built without relying on another banking firm for back office support.

Not totally unlike the 'free banking' era in the U.S. during the mid-1800's, there is a growing energy in the U.S., U.K., and globally around the establishment of new banking organizations to better serve the changing needs of today's consumer. Never to be mistaken for the wealthy financiers Aaron Burr, John D. Rockefeller, Henry Wells or William Fargo, these new entrepreneurs, like Mondo co-founders **Tom Blomfield** and **Jason Bates** are serial fintech entrepreneurs who want to create a new bank to meet the specific needs of the new digital consumer.

The term 'challenger bank' is widely used as a description of a banking organization, started from the ground up, and built without relying on another banking firm for back office support. These are found less in the US, but are gaining steam in the UK, where regulations have made getting a banking license less cumbersome.

Based in the U.K., Mondo will be similar to organizations in the U.S. such as Moven, Simple and GoBank, and new U.K. mobile-first challengers Atom Bank and Starling Bank, building a banking app around a smartphone. But, unlike the majority of these neobanks, the startup will be a 'full stack', mobile-first bank with its own full banking license developing its banking software from scratch (Atom Bank also has its own banking license already).

Similar to Mondo, Moven is structured around a prepaid debit card. Unlike Moven, Mondo is building an entirely new bank as opposed to an application layer of an existing financial organization.

Emergence of a New Breed of Banks

Competing with legacy banks that have the advantage of assets, large customer bases, established systems and technology and experience is not an easy task for a fintech start-up. On the other hand, similar to a pick-up truck vs. a semi trailer in a tight turn, size also has its disadvantages.

Old core infrastructures that were built before the ATM were not built with digital technology or mobility in mind. As a result, it is more difficult to respond to the significant number of specialized fintech providers that are competing in service areas such as payments, mobile transactions and even advisory services.

"The big banks are full of really smart, innovative people who are unbelievably frustrated because: 1) their legacy technology cannot keep up, and 2) the internal politics and culture of getting stuff done is incredibly difficult," said Blomfield. When asked whether legacy banks may launch digital subsidiaries as some organizations have already done, Blomfield quickly referred to the 'innovator's dilemma', where profitable organizations grapple with whether to disintermediate existing profitable business lines with newer, less profitable alternatives.

On the other hand, not taking action may hasten the introduction of more and more innovative fintech organizations that eventually achieve the recognition and scale to make legacy banks take notice. By then … it may be too late.

"Challenger banks, while still in their infancy, are set up with the customer at their heart and technology at their brains. They have no legacy, no wrongs to right, but equally no customers yet. They are not to be underestimated, but 2016 will determine how much of a success they are."

— David Brear, Chief Thinker at Think Different Group

Chris Gledhill, CEO and Co-founder of the UK challenger bank-to-be, Secco Bank, says, "In 2016, we will see legacy banks pairing off with challenger banks like the investment by BBVA into Atom. Similar to many fintech firms, challenger banks have vision, innovation and talent but lack money, customers and a license. Big banks have these advantages. It's a perfect match. Just don't be a Big Bank left partnerless when the music stops!"

Emergence of a New Breed of Banks

According to our crowdsourced panel, these smaller challenger banks may not be the only breed of competitor to deal with.

"2016 could be the year that one of the tech giants show their hand in financial services. If this occurs, this will mean profound cultural change that will make legacy firms consider new data and relationship driven business models, leveraging exciting new technologies, AI, advanced analytics and more."

— Duena Blomstrom, Fintech & Digital Experience Specialist, Owner of Duena Blomstrom Consulting

"Most of what we learned from fintech disruption in the past will become irrelevant if pure tech players, such as Google, Facebook or Apple venture into financial services with their economies of scope and ability to make platform plays at unimaginable speeds and scale."
— Peter Vaner Auwera, Co-founder of Innotribe

"A concern for legacy banks is the potential arrival of big ecosystems that the tech and telco companies possess. These firms are very customer-focused, with the ability to push financial services to their own customer bases."
— Alessandro Hatami, Founder of The Pacemakers

Mining New Talent

A major barrier facing the banking industry in their quest to modernize their technology is the need to hire the right talent. As banking organizations compete with all industries for many of the same types of people, banking is not viewed as the most exciting career opportunity ... especially by millennials.

Attracting and retaining top digital talent that can support this internal culture shift will become a priority in 2016.

In the eighth installment of the annual banking survey from Temenos in association with Capgemini, entitled *'Shifting Sands: Banking in the Digital Era'*, the primary takeaway is the significant change in the industry's priorities from a focus on responding to regulations and compliance to a greater emphasis on building a 'digital bank'.

This shift in emphasis manifests itself in the fact that updated technology is banking's biggest priority this year (up from number 4 last year) and that, for the third consecutive year, the industry's biggest challenge was satisfying the demands of better-informed and less-loyal consumers.

Being digital requires rethinking all aspects of how we conduct banking in the eyes of our employees and in the eyes of the increasingly digital consumer. Changing internal processes, moving to contextual engagement and operating in real-time are all foreign concepts for most financial institutions. A major internal change will also include the increased use of data and analytics to initiate and support decision making, product development and distribution.

Attracting and retaining top digital talent that can support this internal culture shift will become a priority in 2016. According to Accenture, "Sixty-one percent of digital organizations see shortages of digital skills as a top challenge in digital transformation, and are concerned about how they can attract and retain top digital talent."

CHART 27: INVESTMENT PRIORITIES FOR FINANCIAL INSTITUTIONS (2015 VS. 2014)

	PRIORITY IN 2015	CHANGE FROM 2014
IT Modernization	#1	+3
Innovation	#2	NO CHANGE
Channels	#3	-2
Attracting, retaining talent	#4	+1
Risk/regulations	#5	-2
Marketing/promotions	#6	+1
Acquisitions	#7	-1

Source: Temenos © December 2015 Digital Banking Report

"Currently, having somebody whose job is digital, in a bank, says a lot about the organization in that it is something bolted on, rather than something that is fundamental, says **Anne Boden**, CEO of Starling Bank in the UK, " The people who are really creating waves in data and technology are not sitting in banks. They're sitting elsewhere."

"It is imperative that we find experienced talent to develop disciplines like Design Thinking, Lean Start Up and proper Open Innovation, says **Maria Jose Jorda Garcia**, from BBVA. "These three capabilities allow a banking organization to design for the customer, to speed up value delivery, and to create those customer experiences that we are all aiming for."

"The most impactful changes will be inside the banks and probably invisible outside for a while longer. These will be within the Executive Leadership Teams and the Board of Directors."

— Daryl Wilkinson, Managing Partner of Lab12 Innovation

"The vast majority of the leadership of banks don't understand exactly how digital works and are very worried about the concept of becoming a 'digital bank'. They have a subset of a subset of a subset of their employee base running large percentages of their business without the leadership knowing exactly what's going on inside."
— Alessandro Hatami, Founder of The Pacemakers

Mining New Talent

Beyond technical talent, it is believed that a diversity of talent is needed to reflect the diverse marketplace:

"Reflecting the growing prominence of women in key positions in other industries, 2016 will be the year of diversity, with women in fintech ('see this excellent web-site curated by **Sam Maule**, from Carlisle & Gallagher on FemTech leaders) arising and taking leadership positions across start-ups and legacy organizations."

— Claire Calmejane, Director of Innovation at Lloyds Banking Group

"Numerous studies across industries illustrate that more diverse companies outperform their counterparts. In 2016, conscious inclusion will occur at all levels and will be part of board room discussions and executive plans."

— Lisa Kuhn Phillips, Founder of inaVision, LLC

Responding to Regulatory & Rate Changes

According to a study of global banking CEOs by PwC, the three overarching banking priorities for future success are finding growth in a challenging environment, driving productivity, and getting ahead of risk and regulatory management. Unfortunately, there are challenges that stand in the way.

In a survey of 175 banking and capital markets CEOs in 54 countries, PwC found that the vast majority of CEOs are optimistic about their growth potential, yet recognize that there are many forces in the industry that present a significant threat.

According to the study, 92% of CEOs were confident about their growth prospects over the next three years, yet only 43% believe that global economic growth will improve over the next 12 months, (down from 56% last year).

Counteracting this enthusiasm, 58% of the CEOs surveyed believed there are more threats to their company's growth prospects than three years ago.

CHART 28: SOURCES OF DISRUPTION PERCEIVED BY BANKING CEO'S*

* CEOs indicating 'extremely' or 'somewhat' disruptive

Source: PwC August 2015 © December 2015 Digital Banking Report

Compliance and regulatory demands continue to be a big issue with banking organizations. Increasing expenses and strains on operations hit organizations of all sizes. The response to regulations has diverted investment and management focus needed to address the transformation trends in the industry, says the PwC report.

The proportion of banking and corporate market CEOs who see overregulation as a threat to growth has grown to 89% from 80% last year, with 62% of CEOs being extremely concerned about this burden. In addition, 53% of CEOs believe regulatory change will have a very disruptive impact over the next five years.

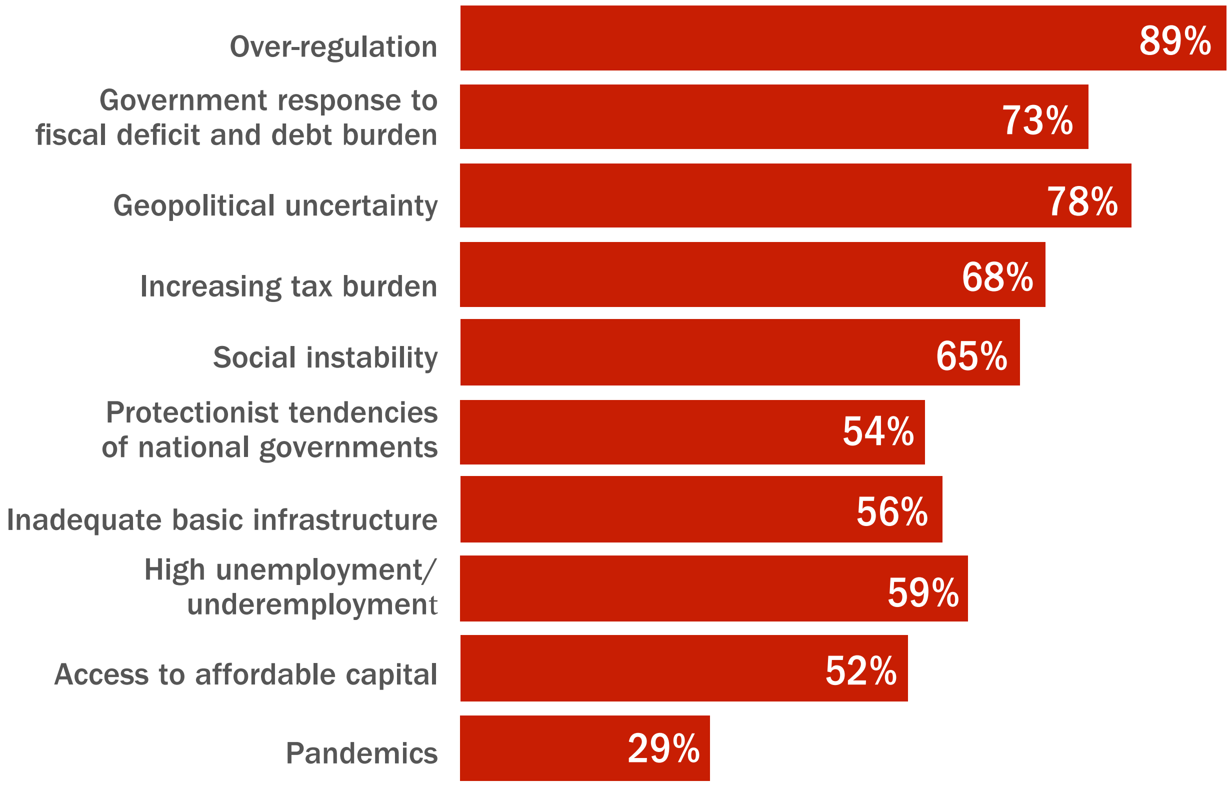
In response to these challenges, banks are evolving business models based upon regulatory demands and the new economics, according to PwC. And, while regulation can be seen as burdensome, it can also create welcome barriers to entry for new fintech organizations and provide opportunities for growth. The key will be to leverage the regulatory playing field to an organization's advantage through potential partnerships and collaborations.

"Regulators are increasingly focused on fintech upstarts. 2016 will be the year it is decided where and how to tighten oversight vs. create a sandbox to protect innovation. They will do both – the question is, who will get which treatment?"

— **Jennifer Tescher**, President & CEO of The Center for Financial Services Innovation

"Regulation has the potential to create an industry dynamic that changes banking forever," states **Jake Chambers**, Co-founder of Lab12 Innovation. "By deciding the basis of competition, from PSD2 and beyond, regulation could fuel competition, change and innovation or it could protect the stays quo. Which way it goes will be the biggest single determinant of the future of the industry in the UK."

CHART 29: ECONOMIC POLICY AND SOCIAL ISSUES THAT CEOs BELIEVE WILL IMPACT GROWTH*



* CEOs indicating 'extremely' or 'somewhat' disruptive

Source: PwC August 2015 © December 2015 Digital Banking Report

It is more important than ever to develop a proactive approach to regulation, with a regulatory leader within the organization that is charged with liaising with regulators, assessing the strategic impact and coordinating responses to regulatory requirements.

In an effort to be more proactive, banks will begin to embed compliance throughout the organization, ensuring the most efficiency and effective use of resources. This will involve both cultural change and a streamlining and simplification of processes.

For many organizations, the centralization of the compliance process has worked well, especially in regards to know your customer and anti-money laundering efforts. Advanced use of data for identification and surveillance of abnormal behavior helps detect for instance.

“In the US (where checks are still widely used), regulation around overdrafts is expected mid-year. If regulators do move forward with the kinds of limits floated recently, banks will be busy adding fees, which could be an avenue for non-traditional banks to stand out.”

— **Alex Jimenez**, Digital Banking and Payments Strategist

Responding to Regulatory & Rate Changes

"Rising interest rates, which might not become significant until 2017 or later, will challenge young bankers who have never even heard of passbooks. How do you market and compete on interest rates? And how will the digital banks put pressure on banks with expensive legacy technology and legacy branches?"
— Tom Groenfeldt, writer at Forbes

"With the Fed increasing its base interest rate, the rest of the world is on notice that all our costs will soon go up. We have had it so good for so long, but change is imminent and that will affect our behavior more than any other industry trend in 2016."
— Alex Jimenez, Digital Banking and Payments Strategist

"As rates rise, deposit teams will realize that broad brush 'front book/back book' promotional pricing techniques are too blunt an instrument, and will increasingly test market, segment and customer-level targeting of promotional pricing. This will allow banks to be competitive with higher rate competitors and selectively grow deposits from rate sensitive customers without repricing the entire portfolio, keeping interest rate 'betas' reasonable as rates rise."

— Sherief Meleis, Managing Director at Novantas

The best description for the challenges and opportunities in the banking industry today is that they are both a 'moving target.' The key will be to continually monitor and attempt to proactively address the challenges facing an organization, while building strategies to take advantage of the market opportunities.

Digital technologies provide a great deal of growth opportunities while providing the potential for greater efficiencies and reduced costs. That said, there may be much more fundamental priorities that many organizations need to address before embracing digital transformation.

Conclusion

“2016 will more dramatically underscore the difference between the winners and the losers, as the ebbing tide of interest rates and the economy will expose those who are not investing in new ideas and new technology to improve efficiencies and customer experiences", states **JP Nicols**, President and COO of Innosect.

Jim Bruene, Editor and Founder of Finovate, added, “2016 will be a year of execution, as a number of big trends begun in the 2008 recession move mainstream (mobile, P2P lending, robo-advising, biometrics, etc.). I also expect the large financial brands to roll-out formidable solutions, often powered by the very upstarts bent on disrupting them.”

Finally, **Penny Crosman**, Editor in Chief for Bank Technology News may sum up the upcoming year the best, “Banks will step up their game technology-wise; they’ll continue to partner with fintech startups and they’ll begin rolling out useful mobile wallet apps that compete with Apple Pay, Samsung Pay and Android Pay. They will also start to pilot and deploy blockchain-style software for payments, trade finance and securities settlement. Finally, they will also find a mutually agreeable way of sharing customer data with data aggregators and personal financial management providers, to deliver a better customer experience.”

Thank You

We would like to take this opportunity to thank the close to 100 member crowdsourced panel that assisted in the development of this expansive annual report. The insight shared was extraordinary and the continued support of this effort is greatly appreciated. There is no place that we know where more diverse and in-depth insight is available. In combination with the research done by the team at the Digital Banking Report, we believe we have the best source for what will most likely happen in banking in 2016.

We would also welcome any comments or discussion around 2016 trends believed to be missed or shortchanged. Nobody's perfect, and it would be great to receive even more insights from the readers of this report.

Finally, we would like to thank the sponsor of this year's research, Kony, Inc.

Jim Marous
Publisher, Digital Banking Report

kony
Mobilize the Enterprise

2016 Crowdsource Panel

Cherian Abraham
Director, Mobile Commerce and Payments
Experian Decision Analytics

Deva Annamalai
Director, Innovation and Insights
Fiserv

James Anthos
Senior Vice President
BB&T

Peter Vander Auwera
Co-Founder
Innotribe

Zilvinas Bareisis
Senior Analyst
Celent

Nick Bilodeau
Head of Insurance, Canada
American Express

Dave Birch
Director of Innovation
Consult Hyperion

Barbara Biro
Director, Channel Migration and Digital Transformation
Mashreq Bank

Duena Blomstrom
Fintech and Digital Experience Specialist
Duena Blomstrom Consulting

Anne Boden
CEO
Starling Bank

Pascal Bouvier, CFA
Venture Partner
Santander InnoVentures

David Brear
Chief Thinker
Think Different Group

Jim Bruene
Editor and Founder
The Finovate Group

Claire Calmejane
Director of Innovation
Lloyds Banking Group

Jill Castilla
President and DEO
Citizens Bank of Edmond

Jake Chambers
Co-founder
Lab12 Innovation

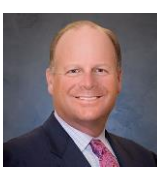
Christophe Chazot
Group Head of Innovation
HSBC

Bryan Clagett
CMO
Geezeo

Penny Crosman
Editor in Chief
Bank Technology News

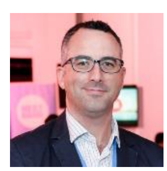
Jim Cross
VP, Retail Product Development
Fifth Third Bank

Aden Davies
previously Social Technologies Specialist
HSBC



Chuck Fagan
CEO
PSCU

Roberto Ferrari
General Manager
CheBanca!

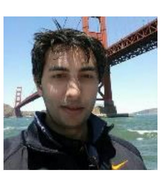


Rob Findlay
SVP, Experience Design DBS and Founder of Next Bank

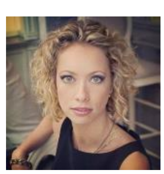
Chris Fleischer
Market Research Manager
D+H

Maria Jose Jorda Garcia
Head of Customer Experience Transformation
BBVA

David Gerbino
Founder
DMG Consulting



Chris Gledhill
CEO and co-founder
Secco Bank



Gemma Godfrey
Founder and CEO
Moo.la

Tom Groenfeldt
Writer
Forbes

2016 Crowdsource Panel

James Haycock
Managing Partner
Adaptive Lab

Neff Hudson
Emerging Channels Executive
USAA

Alpine Jennings
Partner
StratAgree

Alex Jimenez
Digital Banking and Payments Strategist

Jin Kang (Zwicky)
VP, Experience Design
OCBC Bank

Ian Kar
Future of Finance Reporter
Quartz

David Kerstein
Founder
Peak Performance Consulting Group

Brett King
CEO/founder
Moven

Mike King
Owner
Bankwide

Dan Latimore
SVP, Banking
Celent

James Robert Lay
CEO
CU Grow

Bradley Leimer
Head of Innovation
Santander Bank

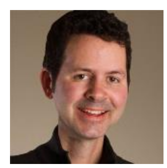
Louise M. Long
Head of Human-Centered Design, NAB Labs
National Australia Bank

Elizabeth Lumley
Director Global Ecosystem Development
London MD Startupbootcamp Fintech

Steve Luong
Director, Product Marketing
Kony, Inc

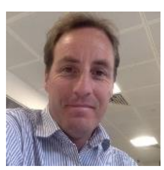
Spiros Margaris
Founder
Margaris Advisory

Sam Maule
Emerging Payments Practice Lead
Carlisle & Gallagher

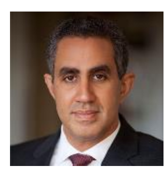


Tim McAlpine
President and Creative Director
Currency Marketing

Craig McLaughlin
CEO
Extractable



Andy McLean
Startup Advisor/Coach



Sherief Meleis
Managing Director
Novantas

Beth Merle
VP, Enterprise Solutions
Epsilon

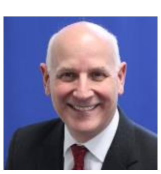
Ross Methven
Director of Client Services
Mapa Research

Devie Mohan
Fintech Market Strategist, Researcher and Speaker
Thomson Reuters

Chris Nichols
Chief Strategy Officer
CenterState Bank

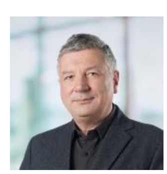
JP Nicols
President and COO
Innosect

Ed O'Brien
Director, Banking Channels
Mercator Advisory Group



Peter Olynick
Card and Payments Practice Lead
Carlisle & Gallagher

Jenni Palocsik
Director, Solutions Marketing
Verint



Kosta Peric
Deputy Director, Financial Services
Bill & Melinda Gates Foundation

2016 Crowdsource Panel

Jim Perry
Senior Strategist
Market Insights

Lisa Kuhn Phillips
Founder
InaVision, llc

Lori Philo-Cook
Owner
Innovo Marketing

Steven Ramirez
President
Beyond the Arc

Yann Ranchere
Partner
Anthemis Group

Josh Reich
CEO, co-founder
Simple

Matteo Rizzi
Co-Founder
FinTechStage Limited

Frank Schwab
Member, Technology Advisory Board
Sberbank

Stephen Sheinbaum
Founder
bizfi

Ron Shevlin
Director of Research
Cornerstone Advisors, Inc.

Makoto Shibata
Head of Global Innovation
Bank of Tokyo-Mitsubishi UFJ

Luveen Sidhu
Chief Strategy and Marketing Officer
Bankmobile

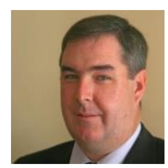
Chris Skinner
President
Financial Services Club

Brian Solis
Author, Digital Analyst and Anthropologist
Future Works

Andra Sonea
Lead Solutions Architect
Lloyds Banking Group

Nicole Sturgill
Principal /
CEB TowerGroup

Mary Beth Sullivan
Managing Partner
Capital Performance Group



William Sullivan
Head of Global Financial Services Market ntelligence
Capgemini

Danny Tang
Channel Transformation Leader, Global Banking & Financial Markets
IBM

Simon Taylor
VP, Entrepreneurial Partnerships
Barclays

Jennifer Tescher
President and CEO
The Center for Financial Services Innovation

Huy Nguyen Trieu
Author
Disruptive Finance

Kevin Tweddle
President, Bank Intelligence Solutions
Fiserv

Dominic Venturo
Chief Innovation Office
U.S. Bank

John Waupsh
Chief Innovation Officer
Kasasa by BancVue

Matt West
Global Strategic Account Executive
MX

Matthew Wilcox
EVP, Digital Banking Group
Fiserv

Daryl Wilkinson
previously Head of Group Innovation
Nationwide Building Society

Howie Wu
Vice President, Digital
BECU

Stacey Zengel
President
Jack Henry Banking