Concurrent Session: Treasurer's Topics

Thursday, March 23rd
3:15pm – 4:30pm
La Quinta Resort & Club, La Quinta, California

Moderator:
Melissa Solis, VP & CAO, Federal Realty Investment Trust

Panelists:
Joseph Kennedy, Principal, PwC
Richard McCarthy, SVP-CRE Regional Sales Manager, U.S. Bank
Michelle Ngo, SVP & Treasurer, Kilroy Realty Corporation

Strategies that power the potential of A/P optimisation

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Abstract

This paper focuses on how to align an organisation with best practices to optimise Accounts Payables (A/P) processes to improve working capital position. It references an Aberdeen Group report from September 2013, where business leaders outlined their top priorities:

- *Operational efficiency and cost containment*
- *CFOs favour technology to better control cash flow and fraud*
- *Companies are not able to process paper-based reviews and approvals in time to capture early pay discounts*

The paper addresses these top priorities and goes through how to create an effective payment strategy. The process includes supplier segmentation, defining the payment strategy, supplier enrolment and management and ongoing payment strategy management.

Keywords: working capital, payment strategy, operational efficiency, accounts payable, supplier segmentation, supplier enrolment

INTRODUCTION

Companies are often focused on growth opportunities and have little time or motivation to optimise back-office accounts payable (A/P) processes. What is often overlooked is that accounts payable is a fundamental function that can provide the stability and working capital to fuel growth. If not managed properly, A/P can inhibit the progression and mobility of an organisation by holding critical people and funds hostage to inefficient processes. Ever-changing demands push and pull in opposing directions as an organisation tries to balance the cultural aspects of the business with the optimisation opportunities of payment processing.

In recent studies, financial leaders outlined their top business/departmental priorities. Among these were cost containment, operational efficiencies and automation.[1]

In that same study, leaders favoured the use of technology to improve processes to better manage cash flow and to help mitigate fraud. They ultimately want to see manual, paper-based processes eliminated with the goal of saving money, improving cash flow and optimising their working capital position.

There are a few fundamental questions that will help you determine a starting point in moving towards increased efficiency.

1. Are your suppliers centrally tracked and regularly maintained in a payment system, including contact information, terms, discounts and payment preferences?
2. Do you use all of the information in your vendor master file to optimise your payment process and to create working capital savings?
3. Have you migrated suppliers to the types of payments that are cost effective for your company?
4. Have you set goals in A/P to maintain a payment strategy that will save money over time and allow you to scale without issue?

Operational efficiency and scalability is achieved when an entire organisation rallies behind a unified supplier management and payment strategy.

A key consideration in recent years is that employees are staying in the workforce longer. Many companies have three, four and even five different generations of people across their employee base and the idea of 'process efficiency' can vary widely across such diverse groups. Some of those employees feel comfortable and 'efficient' with paper and traditional payment management, while others seek automation and paperless processes wherever possible. The challenge comes in getting all of these employees comfortable and supportive of change and process improvements.

How can you align your entire organisation with best practices and optimise your critical payment processes?

Power the potential of your payment strategy

A true payment strategy works through the culture of an organisation to address the entire organisation's strategy in managing suppliers and payments. If you create and apply a payment strategy properly, you will ensure your critical resources (dollars and people) are being applied to the most strategic and value-added activities to support company growth. Accounts payable staff will spend less time managing inefficient and manual, paper-based processes and you will be able to scale your operations as needed and apply your resources to the growing demands of your company. This can also boost employee morale by taking away mundane tasks and offering the opportunity to learn new skills and to provide variety in daily assignments.

The key steps in creating a payment strategy are:

1. Supplier Segmentation
2. Defining Your Payment Strategy
3. Supplier Enrolment & Management
4. Ongoing Payment Strategy Management

Payment strategy (n):
A plan to manage payment processes and culture that focuses on payment savings, process efficiency, payment automation and supplier management.

The natural tendency is to tackle each of these components independently. Unfortunately, this approach will not produce optimal results. It is daunting to attempt to tackle all of this on your own. Support from key internal partners is crucial. You will also need to seek assistance from a financial institution that has the experience and ability to tailor a payment strategy to your business and culture. They should help you find the best approach to optimise payments over time and outline best practices for your organisation. A key to success is establishing metrics that will create focus and allow you to track improvements internally as well as with your financial partners. These metrics vary by organisation but can include things like improved Days Payables Outstanding (DPO), time and cost savings, discount capture rate, savings from process improvements, bank fee savings or commercial card rebate improvement. No matter which elements you choose to track, make sure you measure improvements that align best with your company culture and goals.

Let us review each component of a payment strategy and outline the best practices for implementation.

Supplier segmentation

While you should be able to use your buying power to dictate payment options, the fact is that suppliers can and often do dictate how they want to be paid. Keep in mind that these vendors are trying to manage their receivables process just like you are trying to manage your payables process. They have costs and goals and are typically focused on how they can receive payment in a timely manner for the least amount of overhead. A key to your success is the ability to track and segment vendors so you can work with them to find the most efficient payment approach. You need to motivate and incentivise suppliers to optimise payment processes with you and this is where a supplier segmentation strategy comes into play.

The following are the best practices in tracking and segmenting your supplier base:

1. Track all suppliers in a centralised enterprise resource planning (ERP) or financial system. Even if you have decentralised business units, centralise all of the supplier data and ensure the following is tracked by supplier:
   - Supplier contact information (address, phone, email, primary contacts, etc.)
   - Location detail
   - Parent company designation
   - Preferred payment method
   - Payment terms and discounts
2. Organise your top suppliers by spend and by total number of transactions. Make sure you identify suppliers that should 'roll-up' to a parent company and aggregate the spend under a parent company record (eg corporate vs. location).
3. Identify your top 10–20 per cent of suppliers by spend, transaction or both. These are vendors that are critical to maintaining your business functions. These relationships should be closely managed and you may want to dedicate a purchasing agent or sourcing manager to these accounts. You should negotiate payment terms and discounts and partner to automate the processing of invoicing and payment.
4. For the remaining list of vendors, group them by payment type (check, ACH, card and wire). Create a 12-month report that includes vendor name, address, payment type, payment term, total number of payments and total dollars paid.
5. Work with a financial institution that has the ability to analyse and segment the file to identify payment best practices by term, payment type and vendor/vendor type.

Defining your payment strategy

Once you have your suppliers organised and segmented, you are now ready to formalise your payment strategy. Realise that you will not ever be able to move all of your suppliers to a single payment term or type. You need to offer options, and the key is setting those options to provide incentive for the supplier to adopt best practices with you. Create a payment menu and use payment terms that act as incentive. Pay vendors as quickly as possible when they agree to the invoicing and payment options that work best for you. Pay those suppliers that offer early payment discounts first. Next, pay suppliers that are willing to accept card and then follow that with a slightly longer term for ACH adopters. Check payments should have the longest term, sending the message that this is your least preferred payment option. A sample payment menu is listed below.

Payment Option	*Invoice Option*	*Payment Term*
☐ ACH with Early Payment Discount	Electronic Only	2% Net 10
☐ Commercial Card Payment *(Single-use account, Card on File, Purchasing card, etc.)*	Electronic Only	Net 15
☐ ACH	Electronic Only	Net 20
☐ Check	Electronic or Paper	Net 45

Next, harness the creativity of your organisation to brand your payment strategy to sell the concept internally and with your vendors. Use this name as a way to outline the benefits of your program and actively promote the time and cost benefits this strategy offers your company. Work closely with your company executives, marketing, procurement and sourcing, finance, and technology and include them in the project and naming of the program. Make sure they understand the benefits of the program and create champions in each of these areas.

Once you have a strategy and champions in the organisation, you need to roll out your program. Here are a few suggestions to help you get started:

- Work with procurement/sourcing to update contracts/agreements to include the payment menu and verbiage about your payment strategy.
- Create a simple document, card or desk placemat that can be distributed to all of the appropriate employees. This should include key information about your payment program and outline roles and responsibilities by group.
- Provide sample call scripts to A/P and procurement/sourcing as examples of how to promote the program.
- If possible, offer incentives to employees when they are able to 'convert' a certain number of suppliers to ACH or card. (eg For every ten suppliers converted provide a gift card to that employee).

Supplier enrolment and management

One of the most daunting tasks is the perceived amount of effort required to contact and convert suppliers. Do not let this overwhelm or deter you from moving forward. A number of options and services are available, free of charge, and will help offload the majority of this work from your staff. You should also realise that converting vendors is not a one-time project, but rather something that should take place over time or could be phased in stages. Some financial services providers offer ongoing supplier enrolment campaigns and provide multiple ways to contact suppliers (eg email, phone, web portal). Here is a list of services you should ask for from a financial partner.

- Will they work with you to analyse and segment your vendor file?
- Can they outline the suppliers that are best for ACH, card and check?
- Can they reach out to suppliers on your behalf and will they manage a supplier campaign for you?
- Do they offer an initial single campaign approach or allow for multiple, ongoing campaigns?
- Do they have supplier portal that allows vendors the ability to see your payment menu and choose the best option for them?
- Does the supplier portal allow the vendor the ability to securely share sensitive information for card and ACH enrolment?

- Can they provide you reports and status of suppliers so you can properly update your ERP/financial system?
- What is the cost for them to manage a supplier campaign?

If your financial institution cannot offer all of these options then you may need to find a partner that can accommodate your requirements.

Once you find the right partner, begin with the supplier analysis and segmentation. Take the suppliers that currently pay by check and work with your financial partner to create a plan for a supplier campaign. Provide them with your payment strategy and educate them on how you want the emails and phone calls to be scripted. Outline the type of reporting or information you will require once they identify suppliers ready to convert to a new payment and process. Finalise your plan for the initial supplier campaign as well as your requirements for ongoing supplier outreach.

As the campaign progresses, you should get regular reports/files from your financial provider and then update your ERP/financial system. As suppliers are converted, you will want to make sure your vendor master file is updated and that you pay the supplier accordingly. Also, as a note, when you add new suppliers have them select the payment and term that works best for them. When your procurement/sourcing or A/P staff add that new supplier record, have them update the payment method and the term that was selected. If you add a large number of new suppliers at one time, then leverage the resources of your financial partner to create an outreach campaign for those suppliers.

Ongoing payment strategy management

Now that your payment strategy is in place, it may be tempting to just sit back and enjoy the compliments you receive as your organisation's new savings and efficiency hero. While you enjoy the praise, you need to make sure it sticks and that the efficiencies can be maintained over time.

Here are the best practices to maintain your strategy and savings over time:

- Define and track key metrics for your payment strategy and include those in your regular financial reviews throughout your organisation.
- Regularly highlight the benefits and savings that have been or will be achieved. One idea could be using a wall in a high-traffic area to promote and outline the people involved and savings achieved as the payment strategy progresses. Celebrate success!
- Make sure key groups are tasked with goals and track their performance based upon the new rules of vendor and payment engagement.
- Ensure key employees in accounts payable and procurement are tasked with performance goals to maintain and manage the payment strategy. These employees will need to review in regular intervals their progress in managing supplier relationships and payments according to your strategy.
- Hold regular semi-annual or annual reviews and identify changes to your vendor management and payment strategy. This should include reviews of your vendor file with your financial provider.
- As supplier needs change, make sure you help them migrate to the best payment option. For example, a supplier may have been converted from check to card and they are now ready to move to ACH. Work with your financial partner to incorporate this into your supplier campaign approach.

PUTTING IT ALL TOGETHER

You now have all the pieces necessary to create your own vendor management and payment strategy. It will require strong leadership to get the ball rolling but it is worth the investment. You will ensure accounts payable is viewed as a fundamental function managing working capital to fuel growth. Your critical resources (dollars and people) will be applied to the most strategic and value-added activities to support that growth. Less time will be spent managing inefficient and manual, paper-based processes and you will be able to scale your operations as needed. The many generations that make up your employee base will be better aligned to process improvement and optimisation. Ultimately, your payment process will accentuate your company's culture and success by containing costs, creating operational efficiencies and automating processes. Do not miss the chance to work with your financial partner to maintain a strategy that creates savings over time.

AUTHOR'S NOTE

Some of the information provided has been obtained from external sources and is believed to be reliable, but is not guaranteed as to accuracy or completeness. The information is for general information only and is not intended to be a forecast of future events or a guarantee of future results. It is not intended to serve as a recommendation or solicitation for the purchase or sale of any particular product or service. It does not constitute advice and is issued without regard to any particular objective or the financial situation of any particular individual. These views are subject to change at any time based upon market or other conditions and are current as of the date indicated on these materials.

Reference

(1) Aberdeen Group, September 2013.

The swinging pendulum: Board governance in the age of shareholder empowerment

Governance Insights Center

PwC's 2016 Annual Corporate Directors Survey

October 2016

pwc

Table of contents

Note: Charts may not all add to 100% due to rounding

Introduction

Against a backdrop of cheap oil, low interest rates, and record high US equity markets, the corporate governance environment for public companies continues to evolve in 2016. And by almost every measure, investors are now exerting more influence than ever on how boards and management teams operate. In some ways, the pendulum has swung from a 'board-centric' model that took root after the governance and accounting scandals of the 1990s to an 'investor-centric' model today—in which institutional investors and shareholder activists have an unprecedented say about board composition, executive compensation, and even how companies choose to allocate their capital. With these observations in mind, we structured PwC's *2016 Annual Corporate Directors Survey* to gauge director sentiment on board governance in this new age of shareholder empowerment.

The survey results clearly indicate that directors are being more responsive to investor pressure on a range of corporate governance issues.

Specifically, investors are having more of an influence in:

- **Suggesting new directors**
  There was a noteworthy increase in the percentage of directors who now say their board uses investor recommendations to identify new director nominees (18% this year, compared to 11% in 2012).

- **Changing board composition**
  More than six in ten directors say their board added a new member in the last year with a specific skillset, and nearly half say they added a diverse board member in response to investor pressure; 34% say their board added a younger director and 24% say they removed an older director.

- **Prioritizing board diversity**
  Increasing board diversity is on the agendas of many institutional investors. Perhaps not surprisingly, the percentage of directors who now view gender and racial diversity as very important director attributes increased over the last two years; 41% now consider gender diversity very important, compared to 37% in 2014. And 34% now consider racial diversity very important—up from 28% two years ago.

About the survey

In the summer of 2016, 884 public company directors responded to PwC's *2016 Annual Corporate Directors Survey*. Of those directors, 71% serve on the boards of companies with more than $1 billion in annual revenue. Participants were 83% male and 17% female—closely aligning with the gender distribution of public company directors. The board tenure of participants was dispersed relatively evenly, and participants came from more than two dozen industries.

In some ways, the pendulum has swung from a 'board-centric' model that took root after the governance and accounting scandals of the 1990s to an 'investor-centric' model today.

- **Deciding how capital gets allocated**
  Investors increasingly feel empowered to influence how companies allocate their capital, and are pushing them to take specific actions. Nearly half of directors say their company increased share buybacks as a result of actual or potential investor demands and another 38% say their company initiated or increased dividends. In addition, 27% say their companies decreased corporate investments as a response to investor pressure.

- **Normalizing director-investor communications**
  A greater percentage of directors are now inclined to view direct engagement with the company's investors as appropriate. And the percentage of directors who consider particular topics not appropriate for direct communication decreased almost across the board.

- **Sharpening board performance**
  Eighty percent of directors at least somewhat agree that shareholder activists compel companies to more effectively evaluate their strategies, execution, and capital allocation. A similar percentage at least somewhat agree that shareholder activism has resulted in improved company operations and capital allocation.

- **Adopting proxy access**
  By the end of the 2016 proxy season, more than 40% of the S&P 500 had adopted a proxy access bylaw, compared to less than 1% two years earlier. We anticipate this trend will continue, with more companies adopting proxy access bylaws that enable certain shareholders to submit a limited number of director nominees for inclusion on the companies' annual proxy statements. In addition, about half of directors indicated that they have no particular concerns with proxy access.

- **Driving enhanced proxy disclosure**
  In a number of areas, including executive compensation, board composition, and the role of audit committees, investors have pushed companies to enhance their proxy disclosures. And many boards have taken action to do so. For example, 62% of directors say their boards took action over the past 12 months to enhance disclosures about the company's executive compensation plan.

- **Promoting longer-term strategic time horizons**
  Potentially in response to investor requests that companies focus more on long-term shareholder value, 52% of directors now say their company's strategic time horizon is one to five years or greater, compared to 48% who said so in 2011.

- **Impacting executive compensation practices**
  Seventy-seven percent of directors at least somewhat agree that say-on-pay voting has caused their board to look at compensation disclosure in a different way, and two-thirds say it prompted their board to change the way it communicates about compensation. However, 72% note that say-on-pay voting has not had an impact on 'right-sizing' CEO compensation.

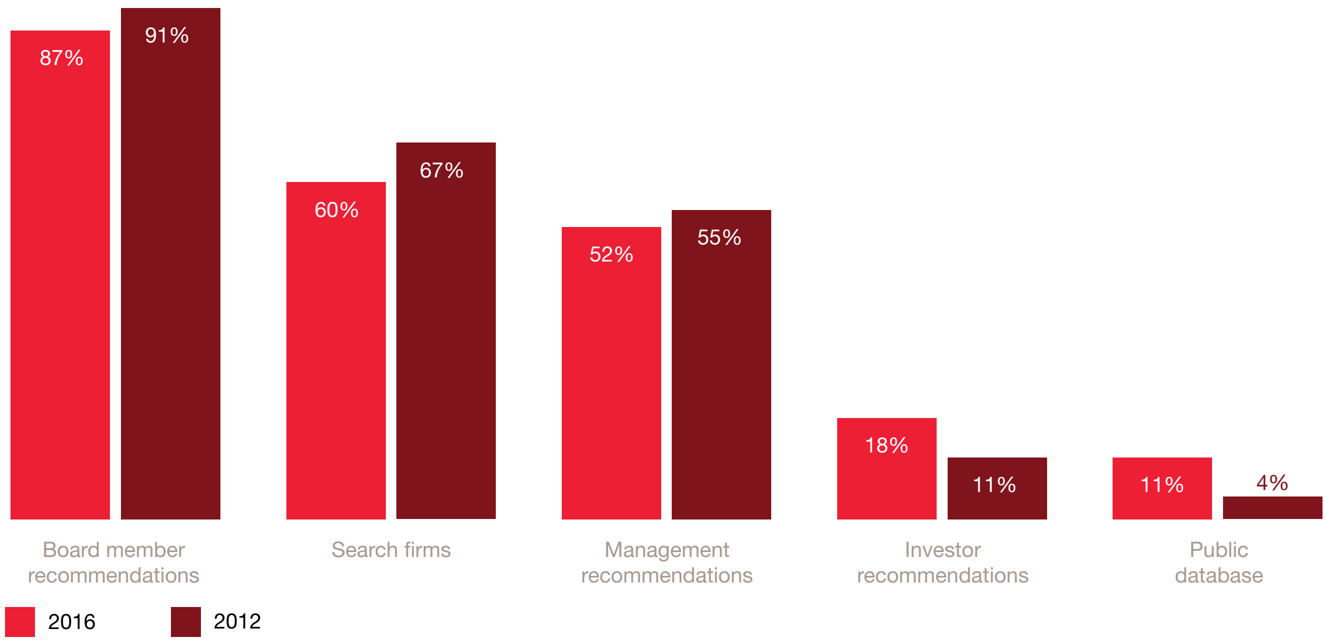
We invite you to review the full survey findings in the pages that follow.

Board composition and diversity

The search for new blood

While the recommendations of existing board members continue to be the most widely used source for identifying new directors, there was a noteworthy increase in the percentage of directors who say their board uses investor recommendations (18% this year, compared to 11% in 2012). This speaks to the increased influence of shareholders in the area of board composition. While still a significant source of new director candidates, there was a modest decline in the percentage of directors who say their board uses search firms (to 60% this year, from 67% in 2012).

What sources do you use to recruit new board members?



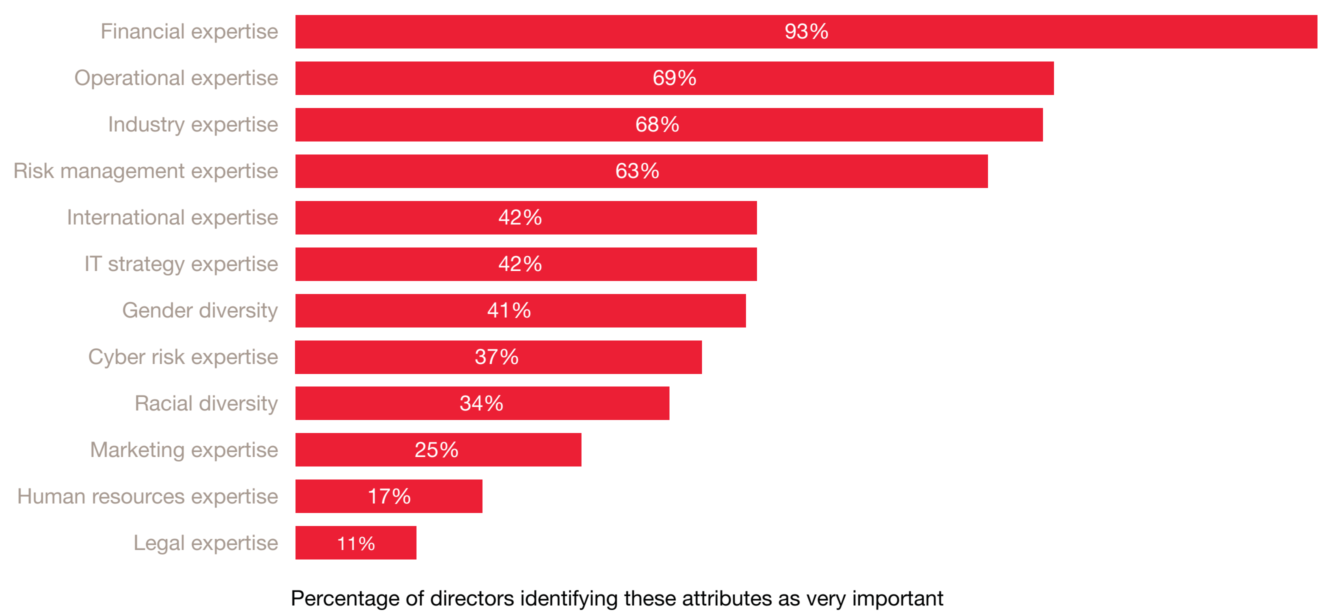
Bases: 884 (2016); 860 (2012)
Sources: PwC, *2016 Annual Corporate Directors Survey*, October 2016; PwC, *2012 Annual Corporate Directors Survey*, October 2012.

What director attributes are most important?

Consistent with results from the last several years, the most important director attributes continue to be financial expertise (93% describe it as very important), followed by operational expertise (69%), industry expertise (68%), and risk management expertise (63%). These core areas are fundamental to a board's ability to provide effective oversight. In addition, 37% of directors believe cyber risk expertise is a very important attribute. Human resources and legal expertise are less of a priority, with fewer than one in five directors describing these attributes as very important.

The percentage of directors who view gender and racial diversity as very important attributes increased over the last two years; 41% now consider gender diversity very important compared to 37% in 2014. And 34% now consider racial diversity very important—up from 28% in 2014.

How would you describe the importance of having the following attributes on your board?



Base: 863–868
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

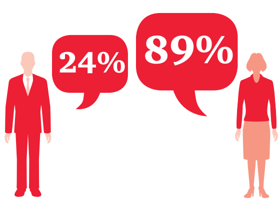
The impact of board diversity

While the vast majority of directors (96%) view adding board diversity as at least somewhat important, 83% at least somewhat believe there are impediments to doing so. They cite a limited pool of diverse director candidates as a significant obstacle; only about one-quarter very much believe there are a sufficient number of qualified diverse candidates. Female directors are more likely to believe there are a sufficient number of diverse candidates; 93% at least somewhat believe this to be true, compared to only 64% of male directors.

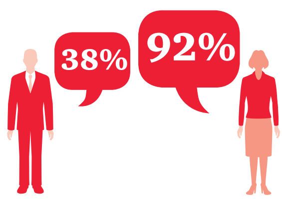
Despite the perceived difficulty of recruiting diverse board members, a majority of directors believe diversity positively impacts their board and company; more than eight in ten believe diversity at least somewhat enhances board effectiveness and company performance, and more than one-third believe it very much does so.

Deeper insights

Female directors are much more likely to think board diversity enhances company performance and board effectiveness.

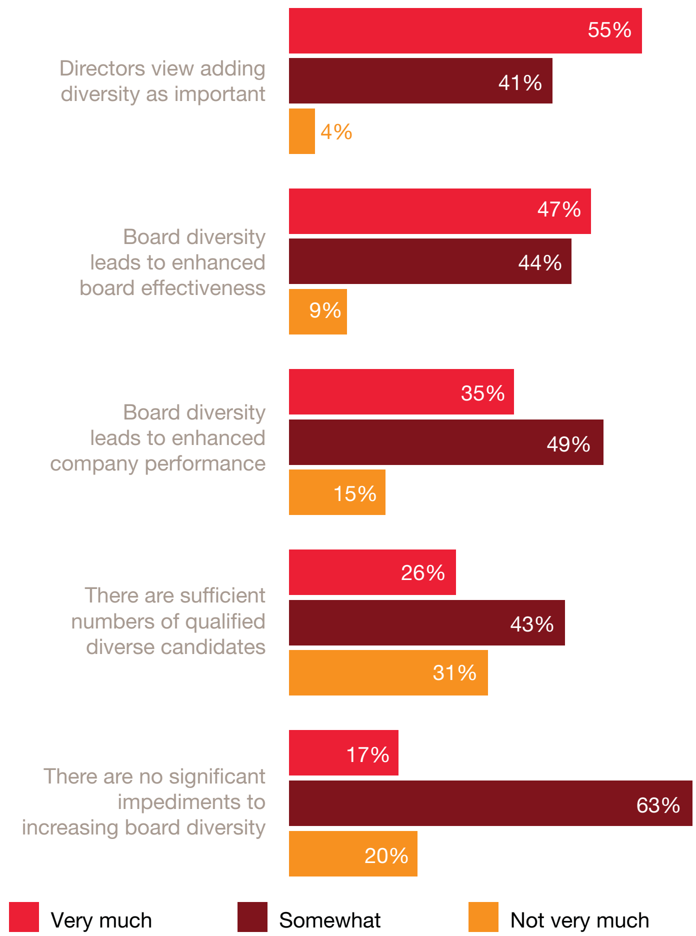


Board diversity improves
company performance



Board diversity improves
board effectiveness

To what extent do you believe the following regarding board diversity:



Base: 852-882
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

PwC perspective: *Board diversity*

One of the main impediments to building more diverse boards is that many boards look to current or former CEOs as potential director candidates. However, only 4% of S&P 500 CEOs are female,[1] and only 1% of Fortune 500 CEOs are African-American.[2] So in order to increase board diversity, the pool of potential director candidates needs to be expanded. To find more diverse candidates, boards will have to look in different places. There are often many untapped, highly qualified, and diverse candidates just a few steps below the C-suite—people who drive strategies, run large segments of the business, and function like CEOs.

While those who aspire to become directors must play their parts, the drive to make diversity a priority really has to come from board leadership: CEOs, lead directors, board chairs, and nominating and governance committee chairs. These leaders need to be proactive and commit to making diversity part of the company and board culture.

For more information on this topic, see our 2016 report ***Director-Shareholder Insights: Board composition–Key trends and developments***.

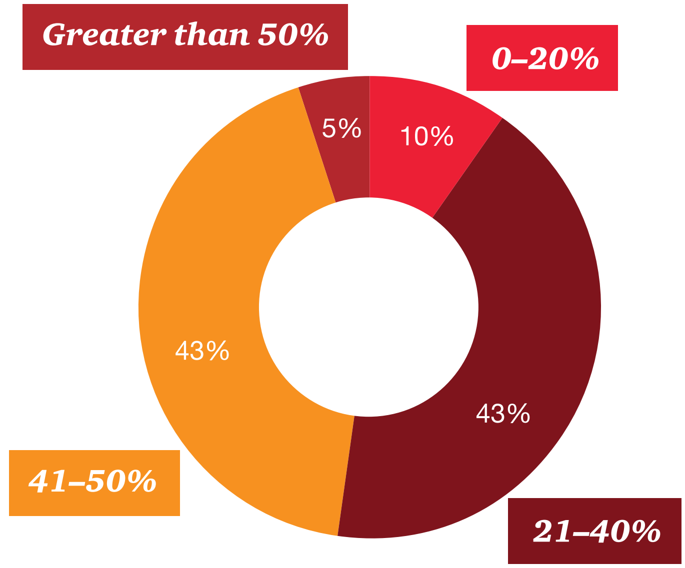
1 Catalyst, *Women CEOs of the S&P 500*, February 3, 2016.
2 "McDonald's CEO to Retire; Black Fortune 500 CEOs Decline by 33% in Past Year," DiversityInc, January 29, 2015.

The 'right' gender balance

Twenty percent of S&P 500 board members are female, and 31% of all new directors joining S&P 500 boards in 2015 were women.[3] But is there an optimal number of women that boards should be targeting in their overall composition? Some research has shown that Fortune 500 companies with the highest representation of female directors attained significantly higher financial performance, on average, than those with the lowest representation of female directors.[4]

An equal percentage of directors believe that 21–40% and 41–50% are the optimal ranges for female board representation. Both of these ranges, however, are notably higher than the actual percentage of women currently serving on boards.

What is the optimal percentage of female representation on public company boards?



Base: 795
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

Deeper insights

One in ten directors** believes the optimal representation of **women on boards should be

20% or less

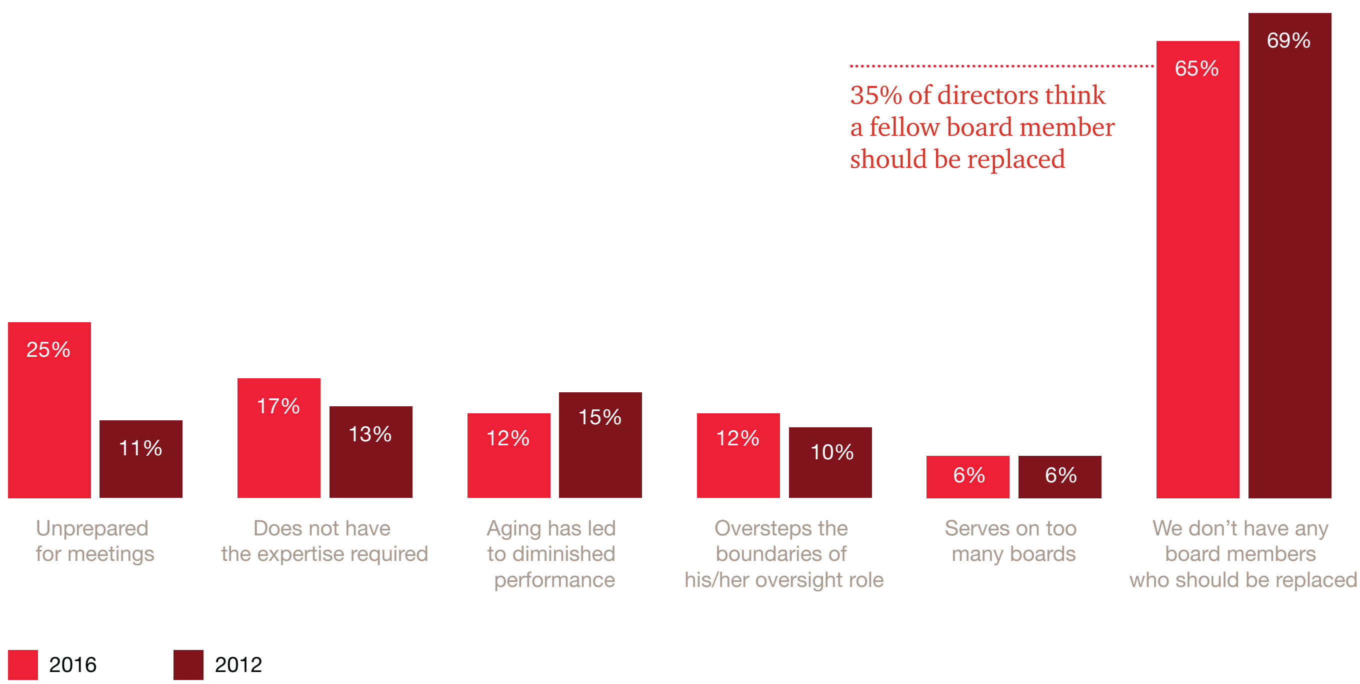
–97% of those who believe this are male.

3 Spencer Stuart, *US Board Index 2015,* November 2015.
4 Catalyst, *The Bottom Line: Corporate Performance and Women's Representation on Boards (2004–2008),* March 2011.

Are you prepared for meetings? Dissatisfaction with peers

The level of dissatisfaction directors express with their fellow directors is higher today than in 2012; 35% of directors now believe someone on their board should be replaced—up from 31% four years ago, but down slightly from 2015. Directors continue to cite unpreparedness for meetings, lack of expertise, and diminished performance due to aging as the top reasons for wanting to replace their peers. Of particular note, the complaint that underperforming directors are unprepared for meetings spiked to 25% this year, up from only 11% in 2012. As the bar has been raised on director performance and pre-meeting materials have become more voluminous, the time commitment required for board work has increased accordingly. And some directors are clearly concerned that their colleagues are not keeping up.

Do you believe that any of your board members should be replaced for the following reasons?



Bases: 830 (2016); 852 (2012)
Sources: PwC, *2016 Annual Corporate Directors Survey*, October 2016; PwC, *2012 Annual Corporate Directors Survey*, October 2012.

Deeper insights

Directors with less tenure are more likely to think a fellow board member should be replaced;

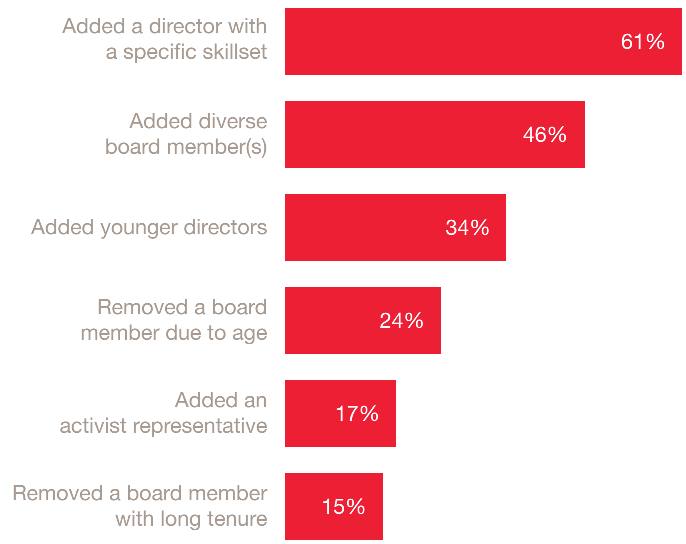
***39% of directors** who have served on their board for two years or less think someone on their board should be replaced, compared to **29% of directors** with more than ten years of tenure.*

Investors flex their muscles on board composition

Directors are increasingly taking action to be responsive to investors about board composition. More than six in ten say that over the past year, their board added directors with a specific skillset, and nearly half say their board added a diverse director in response to investor pressure. Thirty-four percent say their board added a younger director and 24% say they removed an older director as a result of prodding by investors. Considering the aggressive shareholder activism environment of late, it's not surprising that 17% of directors say their board added an activist representative over the past year.

Investors are increasingly pushing boards to focus on their own refreshment. As part of that push, they are looking at director tenure and age. For example, the pension fund CalPERS (California Public Employees' Retirement System) believes that director independence can be 'compromised' after 12 years of board service, and in these situations, "*a company should carry out rigorous evaluations to either classify the director as non-independent or provide a detailed annual explanation of why the director can continue to be classified as independent.*"[5]

Has your board made any of the following changes to its composition in the past year in response to investor pressure?



Base: 412
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

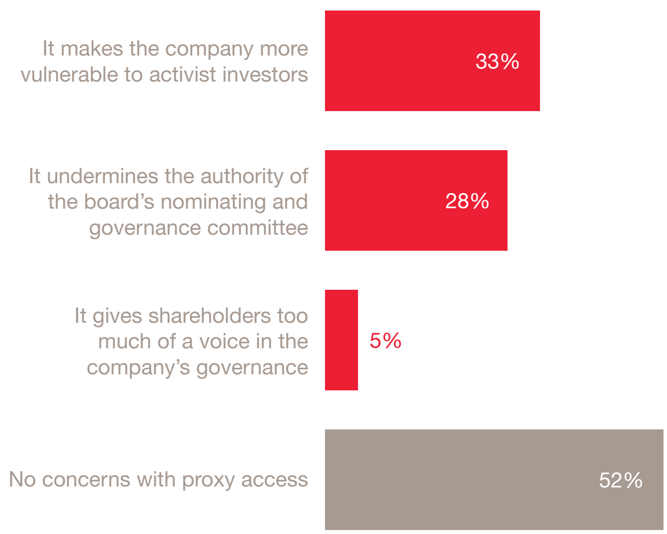
5 CalPERS, *Global Governance Principles,* March 2016.

Proxy access breaks through

2016 was a breakthrough year for proxy access—more evidence of increased shareholder empowerment. The Boardroom Accountability Project (a collaboration between the New York City Comptroller's Office and New York City pension funds) led the charge by filing 72 shareholder proposals for proxy access. A number of companies preemptively adopted proxy access bylaws, avoiding a shareholder vote. By the end of the 2016 proxy season, approximately 40% of the S&P 500 had adopted a proxy access bylaw,[6] compared to less than 1% two years earlier.[7] And we expect this trend to continue.

Director views are still mixed on proxy access. About half of directors have no particular concerns with proxy access. One-third believe it makes companies more vulnerable to activist investors and 28% believe it undermines the authority of the board's nominating and governance committee.

Do you have any of the following concerns with proxy access?



Base: 862
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

PwC perspective
Proxy access

Many investors believe that proxy access is an essential shareholder right. They believe they need a mechanism by which long-term shareholders can directly influence board composition. And judging by the evolution of director views on proxy access, updates to investors' proxy voting guidelines, and proxy advisory firm voting recommendation policies, we anticipate that proxy access will continue to become more widely adopted over the next several years.

While one-third of directors believe proxy access bylaws make a company more vulnerable to shareholder activism, we do not necessarily believe this is the case. Most proxy access bylaws require share ownership of at least 3% of the company for three years. Our experience indicates, and the data shows, that activist investor timelines are generally 18 months or less. This would make activists' use of proxy access fairly unlikely.

If and when proxy access is used by institutional investors, we would expect it to be only in very narrow circumstances. Most institutional investors don't want to be in the business of nominating directors to the boards of the companies they invest in. With this in mind, we suggest companies reach out to key shareholders and evaluate whether adopting proxy access is appropriate.

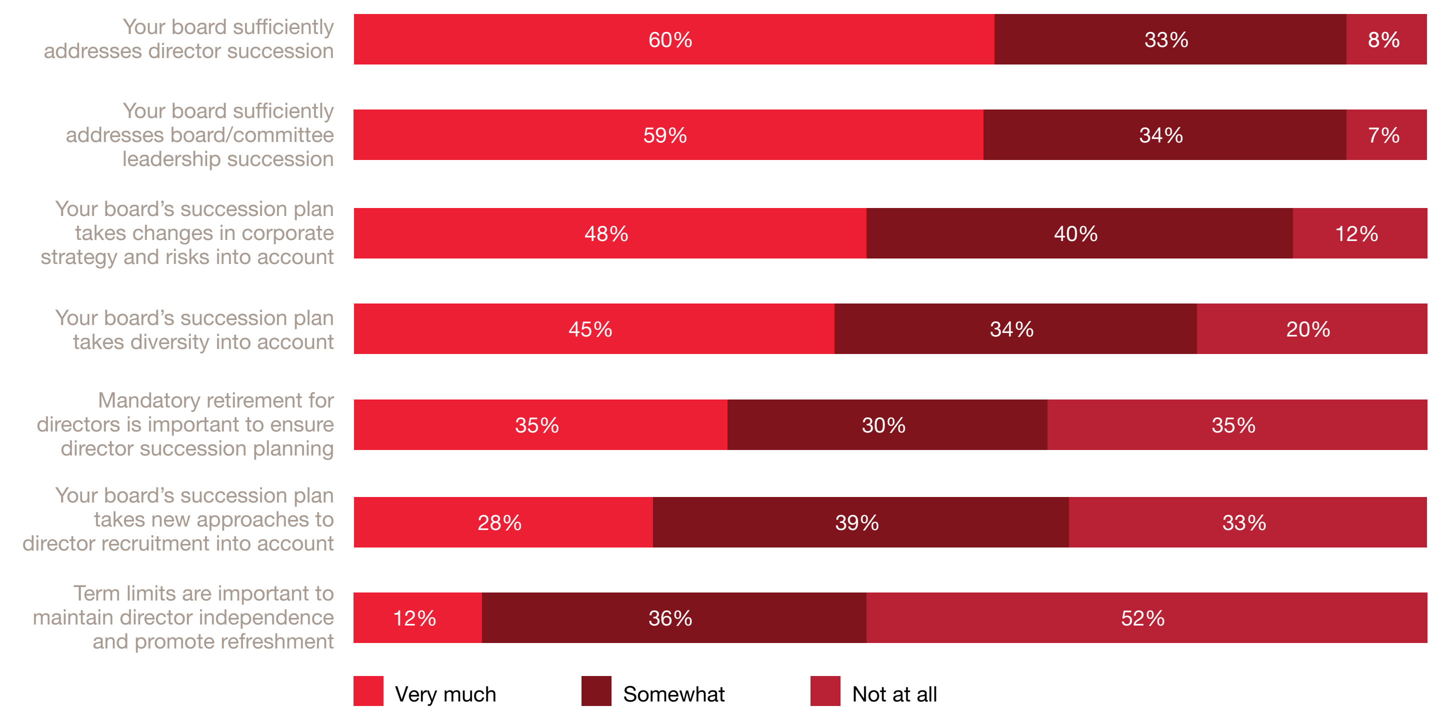
6 Sidley Austin, *Proxy Access Momentum in 2016,* June 2016.
7 Skadden, *Proxy Access: Highlights of the 2016 Proxy Season,* June 2016.

A focus on board succession

As shareholders continue to prioritize board composition, board succession planning has become increasingly important. On the whole, directors believe their boards are doing reasonably well in this area; about six in ten very much believe their boards sufficiently address director and board/committee leadership succession. Nearly half of directors very much believe their board succession plan takes changes in corporate strategy into account.

However, directors have more mixed feelings about the value of formal policies related to board succession—like mandatory retirement policies and term limits. Only 35% very much agree that mandatory retirement policies are important to ensure director succession planning and the same percentage don't at all agree. Only about one in ten agrees that term limits are important to maintain director independence and promote board refreshment.

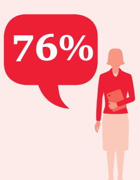
To what extent do you agree with the following:



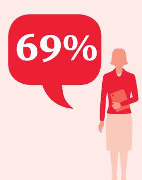
Base: 864–867
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

Deeper insights

Female directors are more likely to believe their board sufficiently addresses director succession, and place more importance on mandatory retirement policies for directors;



__76% of female directors__ very much believe their board sufficiently addresses director succession, compared to __57% of male directors__.



__69% of female directors__ very much agree mandatory retirement ages for directors are important to ensure director succession planning, compared to only __29% of male directors__.

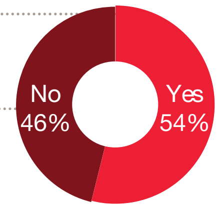
Director communications and shareholder activism

Does director-investor dialogue actually matter?

The prevalence of direct communications between board members and investors has grown considerably over the last several years. More than half of directors now say their board has such engagement. But directors aren't overwhelmingly convinced that these dialogues are valuable, and question their impact on shareholder behavior.

Only one in five directors very much believe that the right investor representatives participate in the engagement. Only one in four very much believe investors were well-prepared for the dialogues; 37% say they were not at all prepared. Only about one-third (31%) strongly believe their boards received valuable insights from the process. In perhaps their harshest critique, only a small number of directors very much believe direct engagement with investors impacts either investing decisions or proxy voting (14% and 18%, respectively).

Does your board have direct engagement with investors?



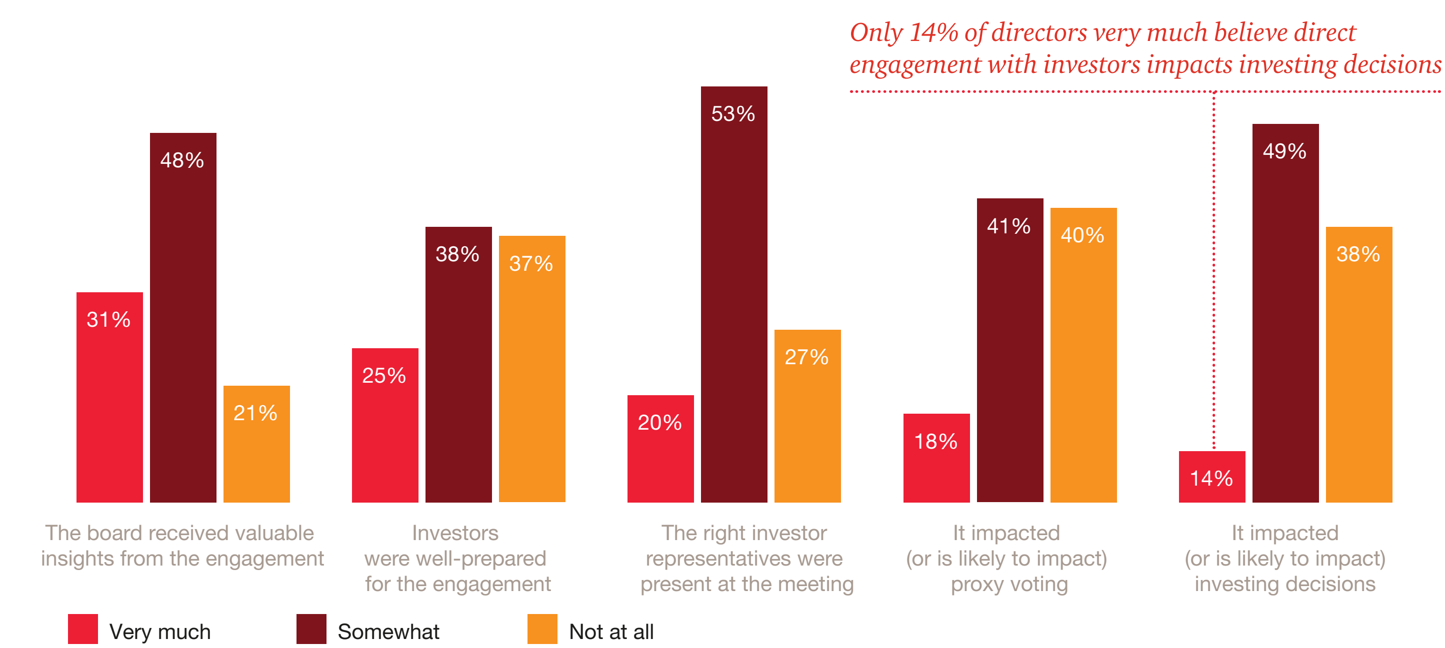
Base: 757
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

Deeper insights

Directors at the largest companies see more value in direct engagement with investors;

51% of directors at mega-sized companies very much think their board received valuable insights from direct engagement, compared to only 14% of directors at smaller companies.

To what extent do you agree with the following regarding your board's direct engagement with investors:

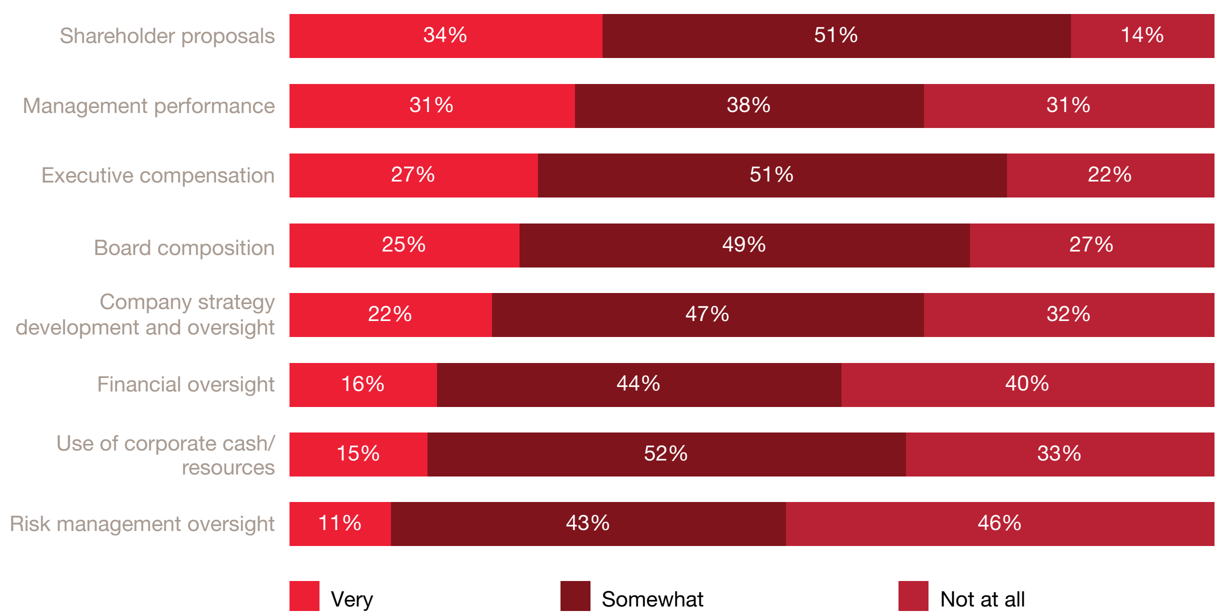


Base: 328–543
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

What topics are fair game?

A greater percentage of directors are now inclined to view direct engagement with shareholders on a range of topics as appropriate compared to two years ago. And the percentage of directors who consider topics not appropriate for discussion decreased almost across the board. For example, 78% of directors now believe it is at least somewhat appropriate to directly discuss executive compensation with shareholders, compared to 73% in 2014. Similarly, 69% of directors now believe it's appropriate to communicate directly with investors about company strategy—compared to 56% who did so in 2014. This trend may indicate a desire on the part of boards to get out in front of activist investors who frequently question the efficacy of a company's strategy as part of their campaign. Directors also grew more comfortable communicating about the company's use of corporate cash/resources. Directors are least comfortable discussing risk management oversight with investors despite their high degree of confidence in their board's ability to oversee risk (see page 28).

Regarding the following topics, how appropriate is it for boards to engage in direct communication with shareholders?



Base: 856–862
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

Making proxy disclosures more meaningful

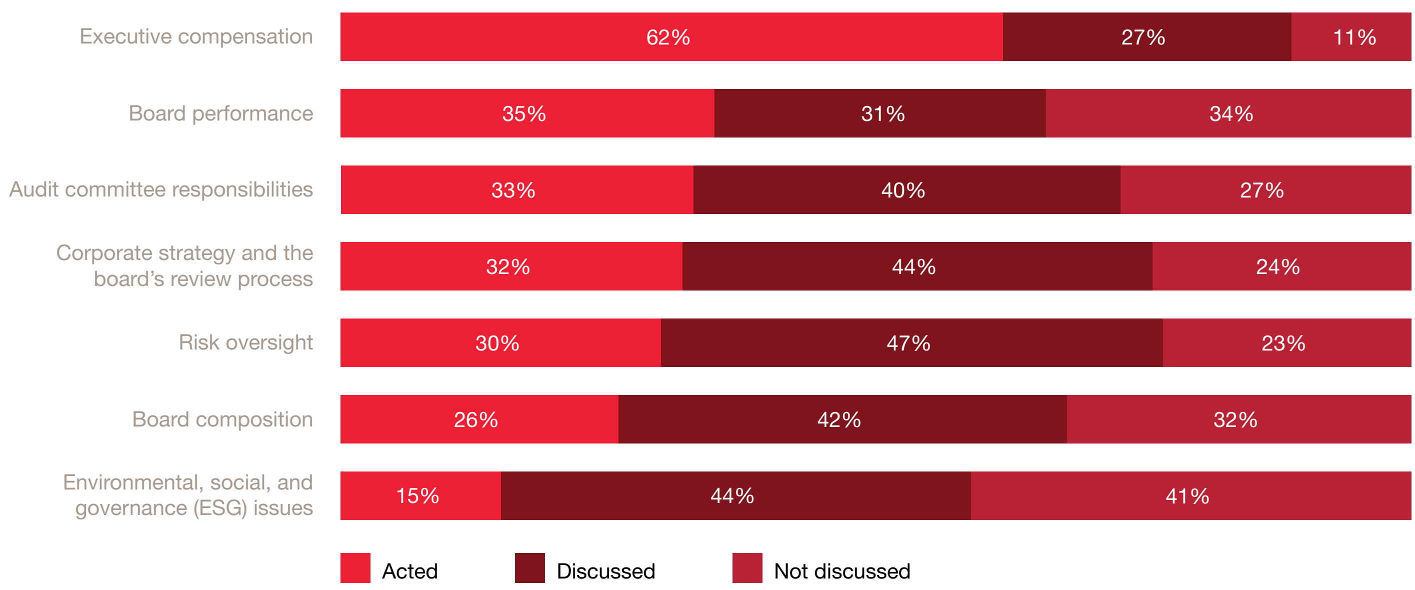
Investors have pushed companies to enhance their proxy disclosures to include more detail and be more meaningful. Many boards have taken action to do so—or are discussing it; 62% of directors say their boards took action over the past 12 months to enhance disclosures about the company's executive compensation plan. About one third say their boards have taken action to enhance the company's proxy disclosures related to risk oversight, corporate strategy, and the audit committee's responsibilities. ESG (environmental, social, and governance) issues are getting the least consideration for enhanced disclosure; 41% of directors say their board has not focused on these areas.

Deeper insights

Directors at mega-sized companies have taken more action to enhance proxy disclosures than those at smaller companies;

this is particularly true regarding executive compensation (82% vs. 48%), board composition (40% vs. 17%), and ESG issues (50% vs. 5%).

Over the past 12 months, has your board taken any action to enhance proxy disclosures related to:



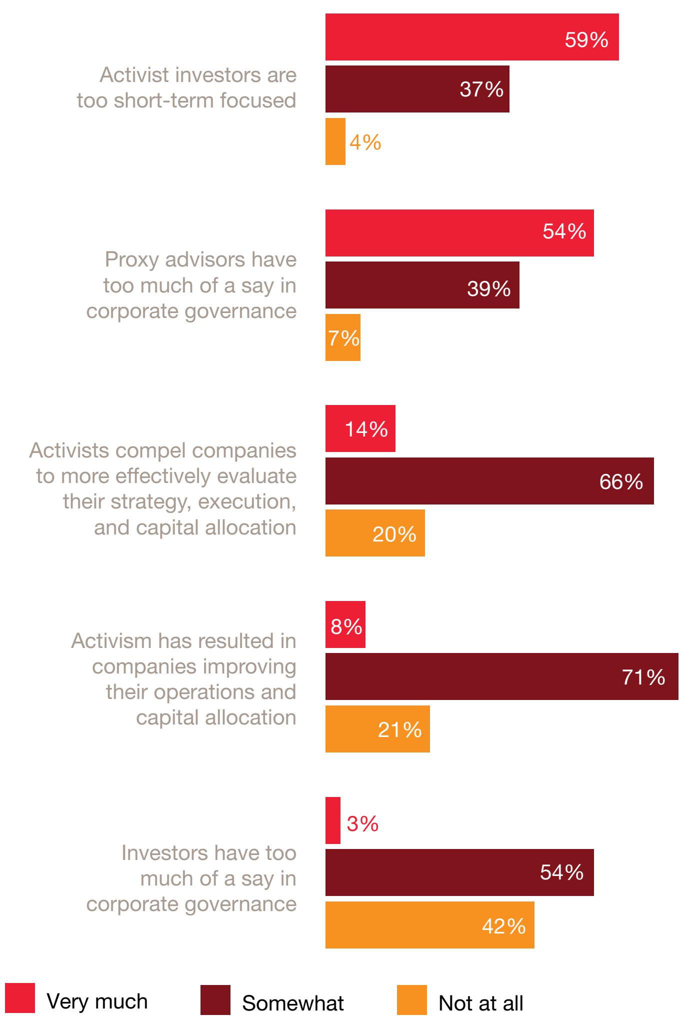
Base: 766–794
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

Are activist investors good for business?

Directors clearly view activist investors as too short-term focused; 96% at least somewhat believe this is the case. However, a majority of board members also recognize that activism has brought with it some positives; 80% at least somewhat agree that activism has compelled companies to more effectively evaluate their strategy, execution, and capital allocation. A similar percentage at least somewhat agree that activism has resulted in companies improving their operations and capital allocation. So despite concerns about short time horizons, many directors believe activists have actually been good for companies.

Directors are united in their views of proxy advisory firm influence; 93% at least somewhat agree that proxy advisors have too much of a say in corporate governance and 54% very much believe this. But directors have more mixed views on the influence that investors have on corporate governance. While 57% at least somewhat agree that investors have too much of a say in corporate governance, 42% don't believe this at all.

To what extent do you believe the following:



Base: 860–862
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

PwC perspective Shareholder engagement and activism

Company management—and sometimes board members—should engage with their largest shareholders about company strategy (and the board's involvement), its capital allocation plan, how executive compensation is linked to strategy, and why the board is made up of the right directors to oversee the company into the future.

Companies will want to consider engaging with activists, too. Listening to what an activist has to say can prevent what could become an antagonistic situation down the road. Some companies have learned this the hard way. For example, after a year of recommending to a company numerous business and management changes—and being rebuffed—one activist successfully replaced the company's entire board.

Not all interaction with an activist is contentious; some companies negotiate with activists to prevent the disruption that comes with a long and expensive proxy fight, sometimes offering them a board seat. Others might learn from the different perspectives, ideas, and insight an activist brings to the table. Overall, the best practice when interacting with all investors—including activists—is to spend more time listening than presenting.

For more information, see our ***shareholder activism page*** and our recent report, ***Director-shareholder engagement: the new imperatives***.

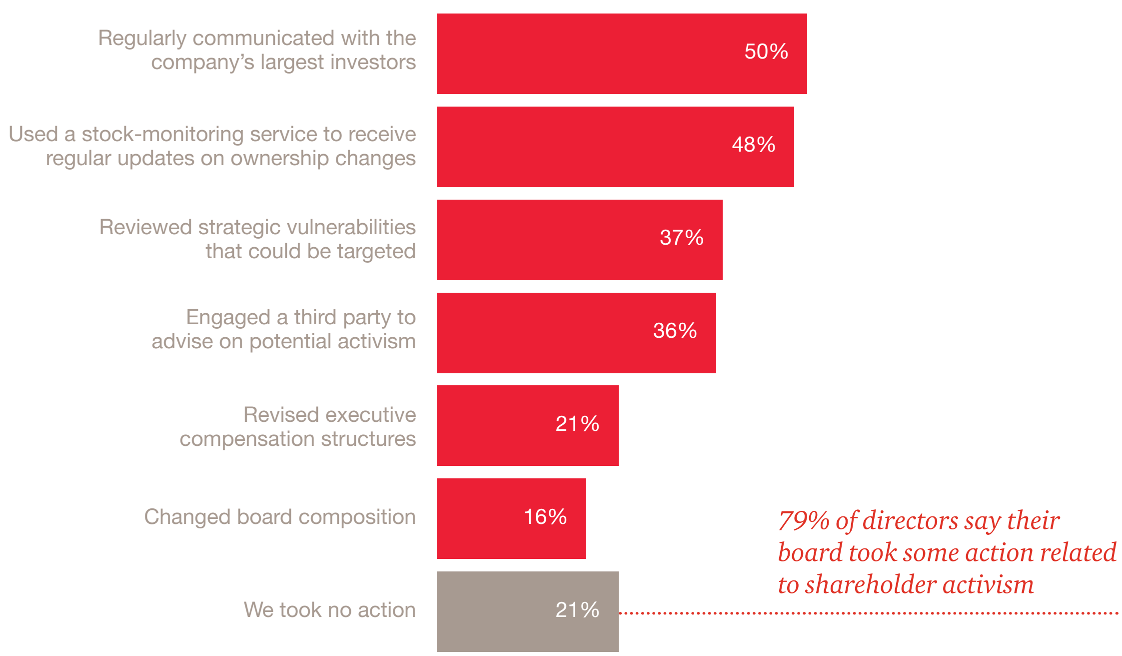
Getting ahead of activism

With $173 billion now under management by activist investors[8] and 420 US activist campaigns last year,[9] it's not surprising that nearly four of five directors say their board took proactive steps to prepare for actual or potential activism. About half say their board regularly communicated with the companies' largest investors and used a stock-monitoring service to provide regular updates about changes to company ownership. Nearly four in ten say their board reviewed strategic vulnerabilities that could be targeted by activists and engaged a third party to advise the board on potential activism. A number of directors also say their board took action by revising executive compensation plans or changing board composition (21% and 16%, respectively).

"Assessing both your financial performance and your governance vulnerabilities is the best way to prepare for activism. Actively listening to shareholders should be a significant part of this effort."

Paula Loop
Leader, PwC's Governance Insights Center

Over the past 12 months, has your board done any of the following regarding actual or potential shareholder activism?



Base: 793
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

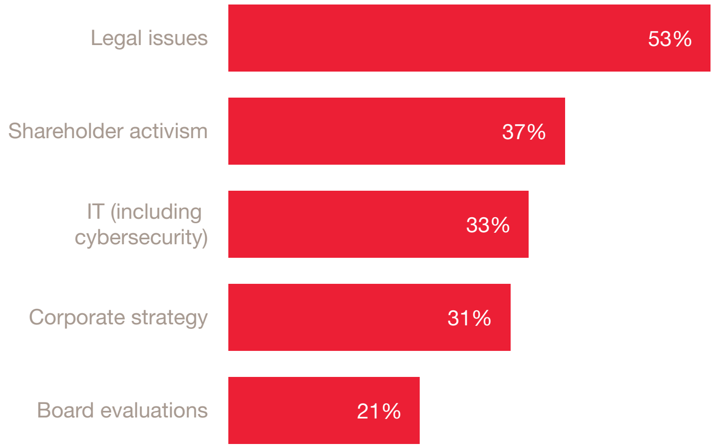
8 Activist Insight, *Activist Investing: An annual review of trends in shareholder activism*, January 2016.
9 FactSet with PwC analysis, May 2016.

Board priorities and practices

Knowing what you don't know

While boards are expected to oversee a significant number of areas, they cannot be experts in everything. In areas that they have less experience with, it's often more beneficial to seek third-party advice than it is to add a board member with deep, but potentially narrow expertise. Over the last 12 months, the majority of directors (53%) say their boards have engaged a third party, separately from management, to advise them on legal issues; nearly four in ten have done so regarding shareholder activism. And about one third of directors have used third parties to advise on corporate strategy and IT issues.

Over the past 12 months, has your board or its committees engaged a third party, separately from management, to advise on the following?

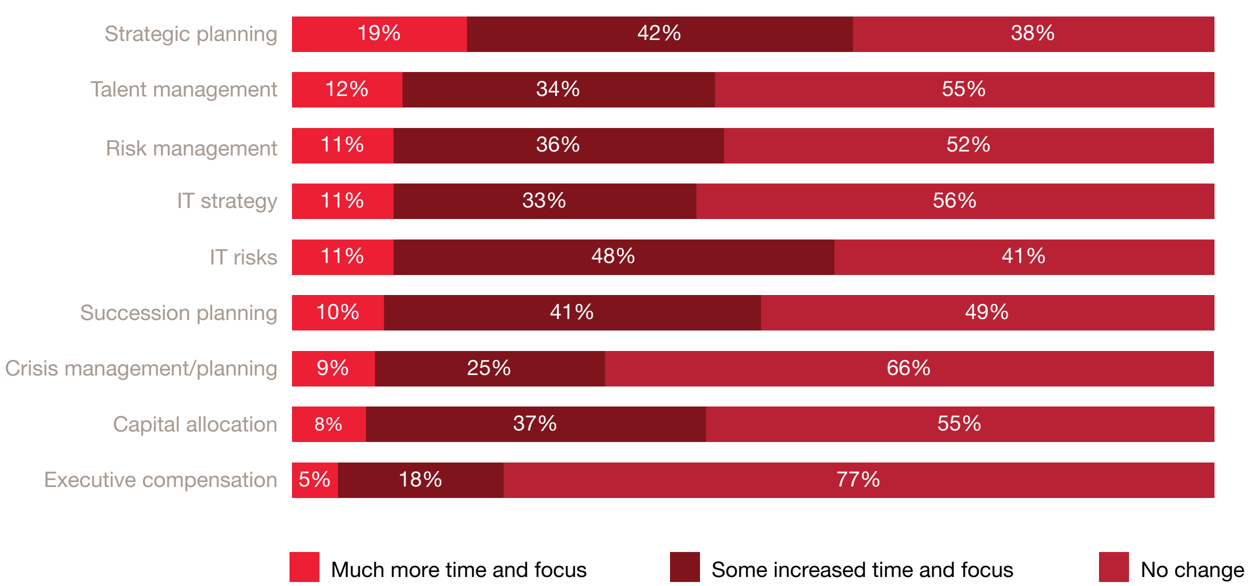


Base: 622
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

Where do directors want to spend more time?

Consistent with results from the last five years, strategy continues to be an area in which many directors want to spend more time; 61% want at least some additional boardroom time and focus on strategy, and about one in five want much more time and focus. Directors also want to give more time and attention to IT risks like cybersecurity and IT strategy; 59% want at least some additional time and focus on IT risks, and 44% want additional attention given to IT strategy. Directors are least likely to want to spend more time on executive compensation. This may be due to the extensive attention that compensation, and say-on-pay in particular, has received over the last several years.

Please indicate if you believe your board should change the amount of time it spends on the following:

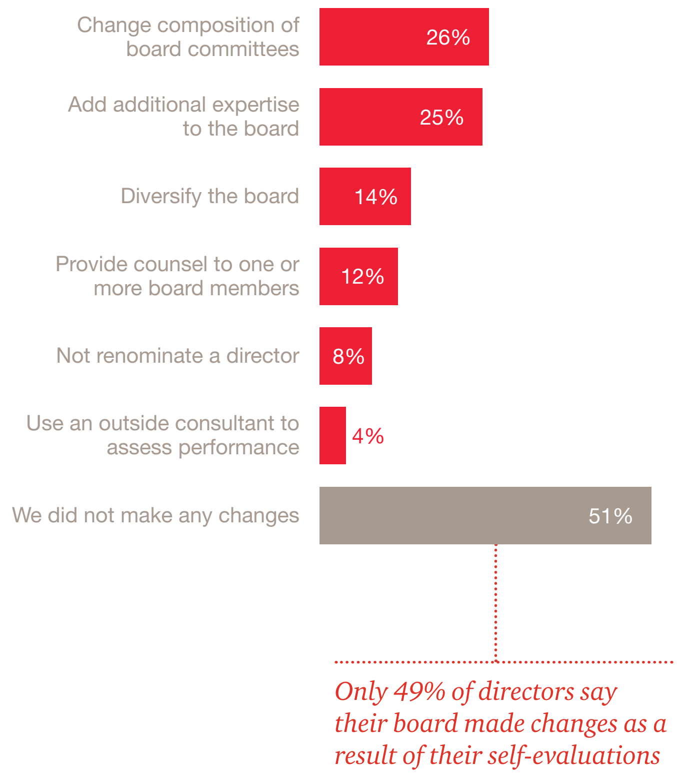


Base: 803–809
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

Sometimes it's hard to make changes

A robust board evaluation process can offer valuable insights into how the board is functioning and how individual directors are performing. The board can then use this process to identify directors who may be underperforming or whose skills may no longer match what the company needs. But, in order to be more than a 'check-the-box' exercise, boards need to take action on the results of their self-evaluations. However, only about half of directors (49%) say their board actually made changes as a result of their self-evaluations. Boards that did take action were most likely to have changed the composition of committees or added additional expertise. Considering that more than one in three directors believe someone on their board should be replaced (see page 7), it's noteworthy that only 8% of directors say they decided not to renominate a director as a result of their self-evaluation.

In response to the results of your last board/committee self-evaluation process, did your board/committee decide to do any of the following?



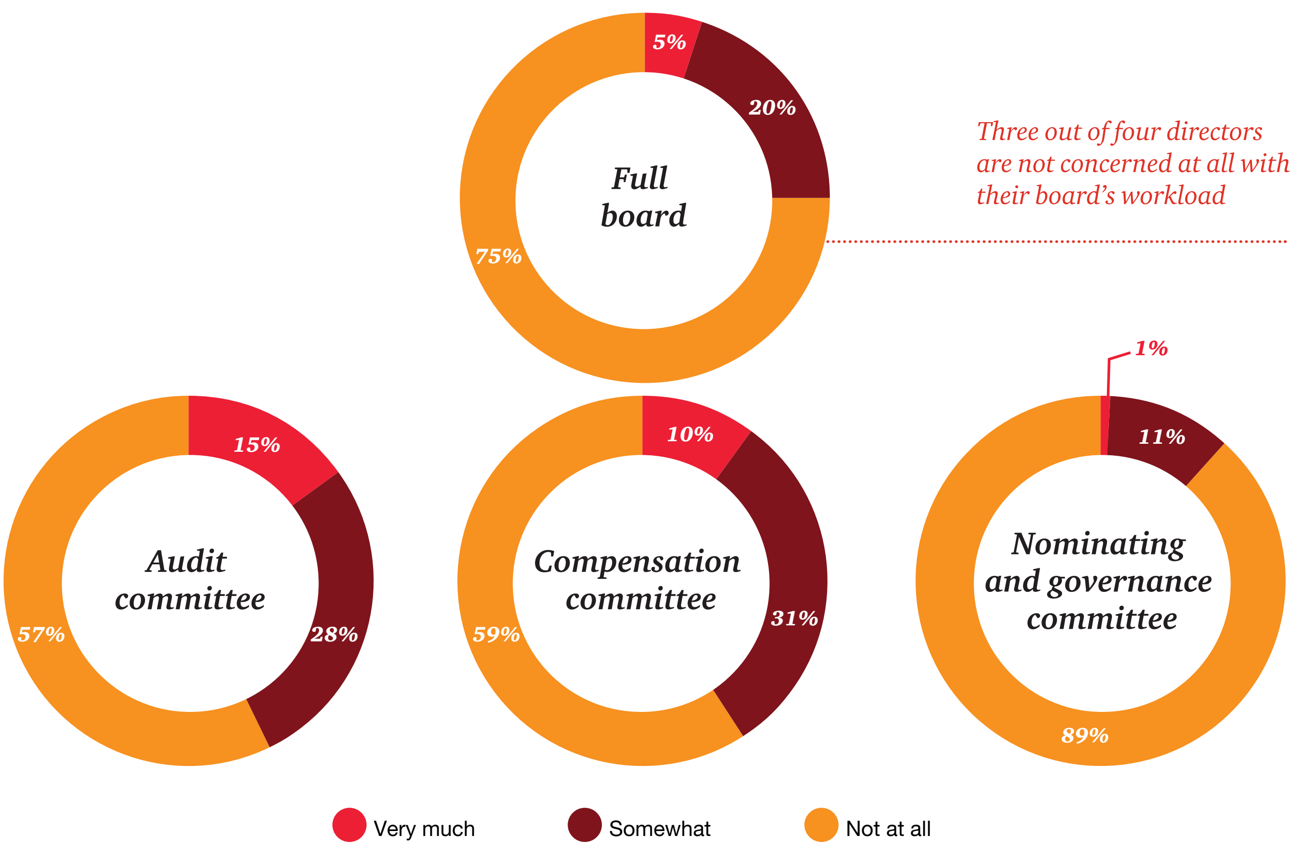
Base: 792
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

The workload is manageable

The average annual time commitment for public company directors last year was 248 hours.[10] And boards are increasingly being asked to expand their areas of oversight. But directors don't appear to be overwhelmed with the responsibilities of their roles. Surprisingly, only 5% are very much concerned with their board's workload.

Directors indicate relatively more concern with the workloads of their audit and compensation committees (43% and 41% express at least some concern, respectively). Despite the heavy investor focus on board composition, the shareholder activism climate, and a breakthrough year for proxy access, only about one in ten directors are at all concerned about the workload of their nominating and governance committee.

To what extent are you concerned with the workloads of the following:



Base: 794–798
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

10 NACD, *2015–2016 Public Company Governance Survey*, 2015.

Director engagement with IT

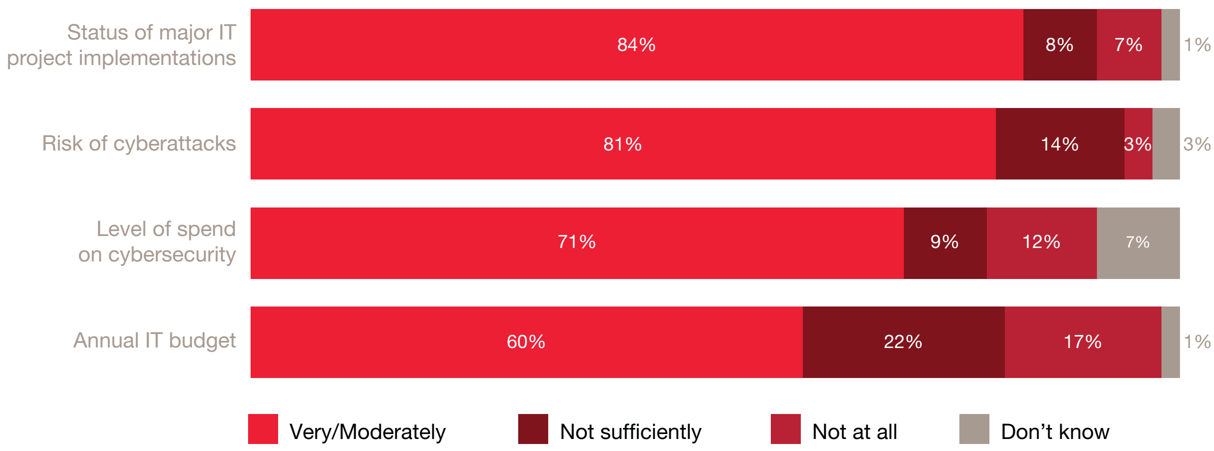
Directors continue to be engaged in understanding how IT issues impact their companies' long-term strategies. Eighty-four percent say they are at least moderately engaged in understanding the status of major IT implementations, and 81% of directors describe themselves as at least moderately engaged with overseeing the risk of cyberattacks. The company's annual IT budget and level of spend on cybersecurity are two other topics that generally receive robust director engagement; more than six in ten now describe themselves as at least moderately engaged in these areas.

Deeper insights

Directors at the largest companies are more engaged in overseeing cyber risks and the company's cybersecurity spend;

68% of directors at mega-sized companies say their board is very engaged in overseeing/understanding the risks of cyberattacks, compared to 32% of directors at smaller companies. And 62% of directors at mega-sized companies view their board as very engaged in overseeing/understanding their level of spend on cybersecurity, compared to only 7% of directors at smaller companies.

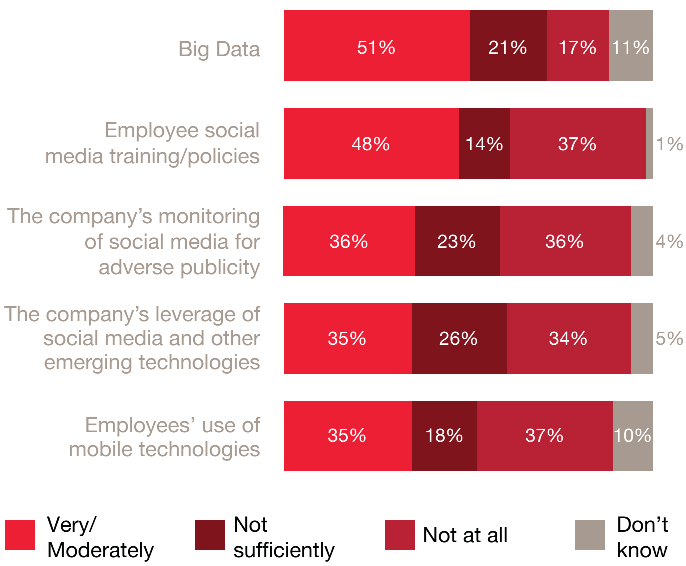
How engaged is your board or its committees with overseeing/understanding the following:



Base: 793–823
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

However, in more emerging IT areas, directors are less involved: about one-third say they are not at all engaged in overseeing of their company's employee social media training policies, their company's monitoring of social media for adverse publicity, how the company leverages social media and other emerging technologies, or employee use of mobile technologies.

How engaged is your board or its committees with overseeing/understanding the following:



Base: 793–822
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

PwC perspective
IT oversight for boards

Our research over the last five years indicates that many board members are uncomfortable with overseeing IT at their companies. Although many directors want to better comprehend the risks and opportunities related to IT, they sometimes don't have an adequate understanding of the subject to be truly effective in their oversight roles. In addition, boards often lack well-defined processes that satisfy their needs in this area. On the whole, this confluence of factors creates an 'IT confidence gap' for many board members.

What can the board do to bridge the 'IT confidence gap?' Structured frameworks for IT professionals and management already exist; however, they are not designed with the board's oversight role in mind. To fill this void, PwC has developed a guide, which introduces our IT Oversight Framework, to help boards figure out how to best oversee IT at their companies.

For many boards, cybersecurity has moved to the forefront of director concerns, and they may be myopically focused on this issue. However, we suggest boards take a step back and look at IT more broadly and in a holistic manner.

PwC's IT Oversight Framework is a process that:

- embraces IT oversight in a cohesive, comprehensive, and holistic manner;
- provides a structured approach for boards to help with their oversight responsibilities;
- offers flexibility for customization based on the company's specific circumstances;
- includes leading oversight practices to facilitate discussions with the chief information officer (CIO), company management, or outside consultants; and
- may help identify IT issues that may not currently be on management's or the board's radar.

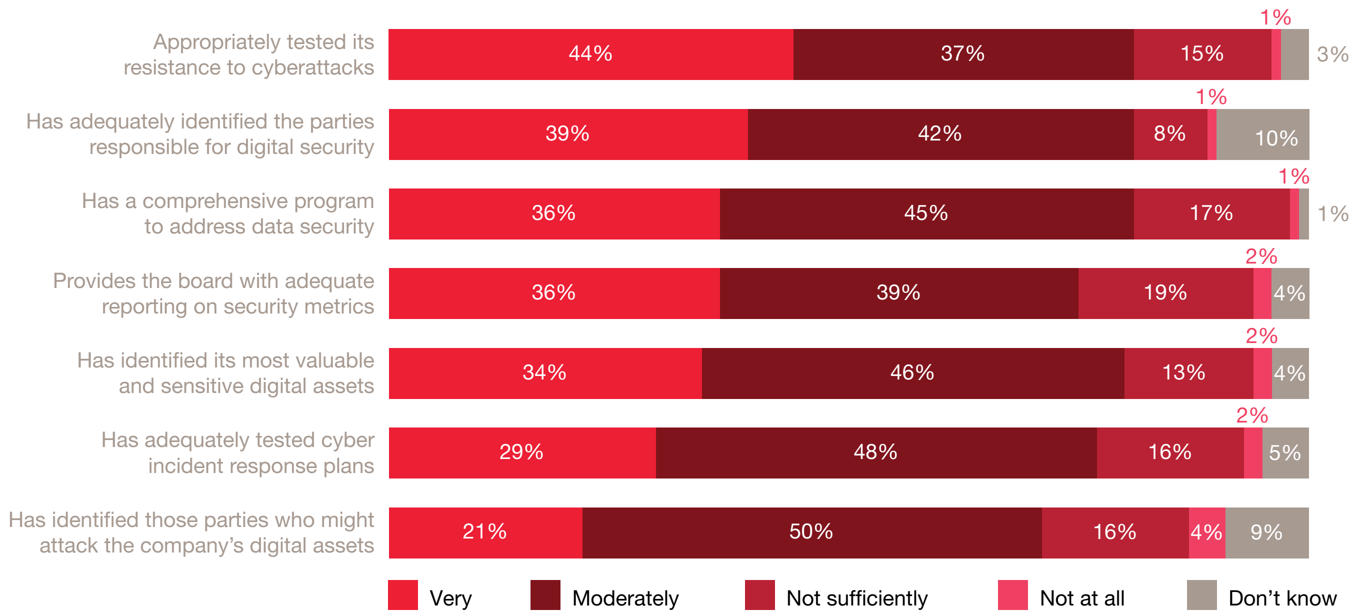
For additional information on overseeing IT, see our user-friendly comprehensive guide ***Directors and IT***.

Director confidence about cybersecurity

Cybersecurity concerns continue to dominate the news headlines, and it is an issue that many boards are focused on. According to recent research, the identities of over 429 million people were exposed in cyber breaches last year.[11] Despite this, director confidence about cybersecurity is high; more than eight in ten are at least moderately confident that their company has a comprehensive program in place to address data security. The same percentage (81%) are at least moderately comfortable that their companies have adequately identified the parties responsible for digital security, and that their company has appropriately tested its resistance to cyberattacks.

However, about one in five directors say their management teams don't sufficiently, or at all, provide the board with adequate security metrics. Similarly, 20% of directors don't feel their company has sufficiently, or at all, identified those parties who might attack their company's digital assets.

How comfortable are you that your company:



Base: 820–821
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

Deeper insights

Directors at the largest companies are more comfortable that their company has adequately tested its resistance to cyberattacks;

63% *of directors at mega-sized companies are very comfortable, compared to only 27% of directors at smaller companies.*

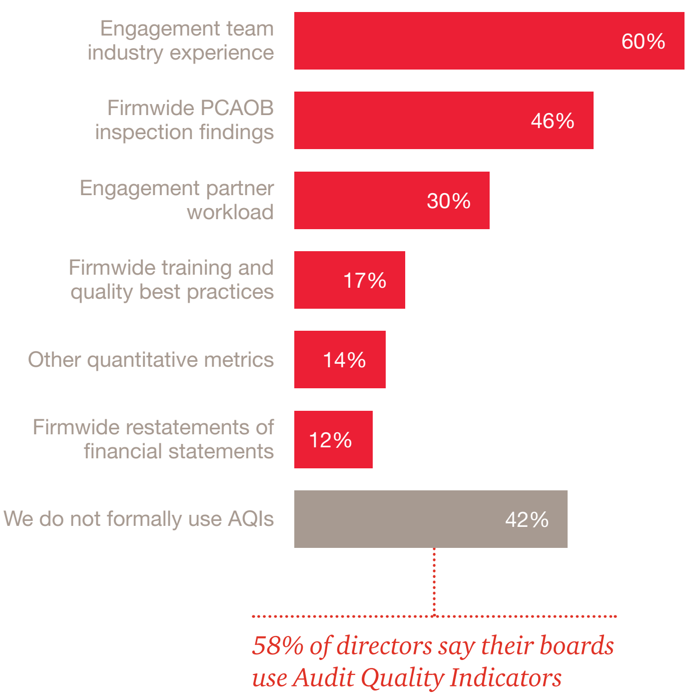
11 Symantec, *Internet Security Threat Report,* April 2016.

Assessing the quality of the audit

Audit Quality Indicators (AQIs) refer to various quantitative measures used to enhance the dialogue regarding the quality of audits performed by the external auditors. AQIs can be tailored for a company's specific needs and can be a useful tool for an audit committee in its oversight of the external auditor.

A majority of audit committees use AQIs to evaluate their company's external auditors. The most common of these are engagement team industry experience and firm-wide Public Company Accounting Oversight Board (PCAOB) findings (used by 60% and 46% of audit committees, respectively). Audit committees also use metrics, such as engagement partner workload and firmwide training, and quality best practices, to lesser degrees.

Which quantitative metrics does the audit committee use in its oversight of the external auditor to assess the quality of the audit—commonly referred to as 'Audit Quality Indicators' or AQIs?



Base: 695
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

PwC perspective
Audit Quality Indicators (AQIs)

AQIs can be useful for an audit committee in assessing the quality of the external audit as part of its oversight role. Potential AQIs have been developed by both the PCAOB in its concept release and the Center for Audit Quality (CAQ) in the *CAQ Approach to Audit Quality Indicators* paper.

Over half of the directors surveyed indicated that the audit committee formally uses AQIs in its oversight of the external auditor. Our experience is that the formal use of AQIs is less common than the results of our survey suggest. While quantitative metrics are often used for specific areas, as noted in the survey results, the more formal use of a selected set of AQIs by audit committees used consistently is growing but continues to be a relatively new concept.

For additional information on AQIs, see our ***Point of view: Audit quality–Can it be measured?***

Deeper insights

Audit committees at smaller companies are much more inclined to use AQIs (63%) than at mega-sized companies (39%).

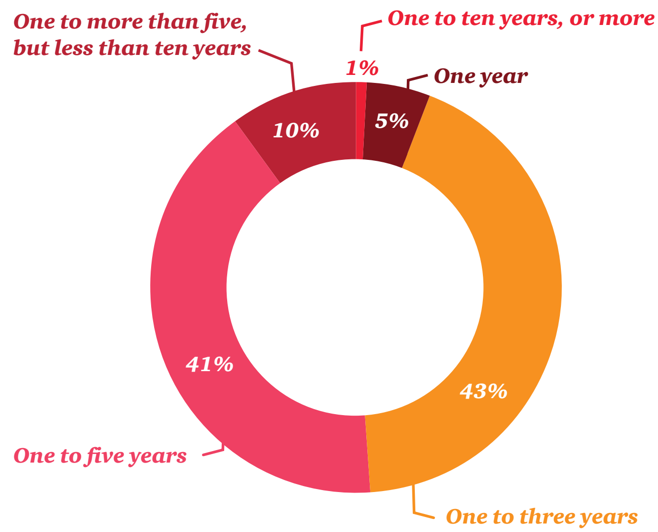
Strategy and risk oversight

Strategic time horizons

Right before the 2016 proxy season, BlackRock's CEO Larry Fink sent a letter to the 500 largest companies in which BlackRock invests expressing concern about an excessive focus on short-termism. He asked that every CEO lay out for shareholders each year a strategic framework for long-term value creation. He stated that *"because boards have a critical role to play in strategic planning…CEOs should explicitly affirm that their boards have reviewed those plans."*[12]

Strategic oversight is clearly one of the board's primary responsibilities. And a development in this area is the use of longer-term horizons for reviews of strategic plans; 52% of directors now say their company's strategic time horizon is one to five years or greater, compared to 48% in 2011. Only 43% of directors now say they use a one to three year time horizon in evaluating strategy, compared to 52% five years ago. This shift may indicate that boards are responding to investors' pressure that they address strategy from a long-term shareholder value perspective.

When your board is discussing the company's strategy, what time horizon is primarily used?



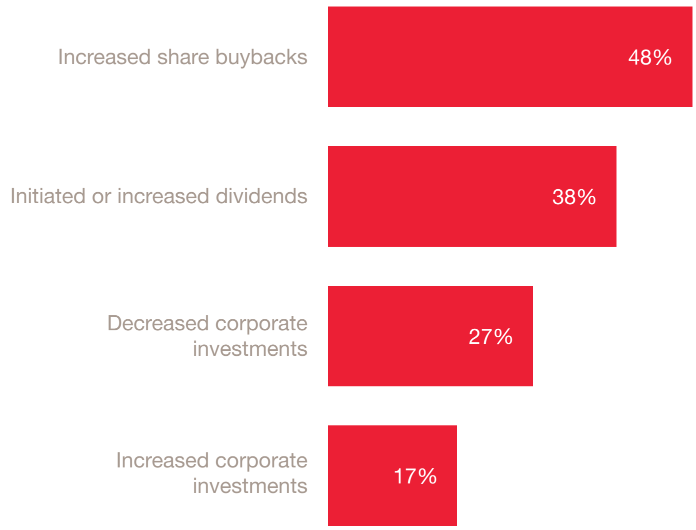
Base: 795
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

12 BlackRock, Larry Fink's 2016 Corporate Governance Letter to CEOs, February 2016.

Investors driving capital allocation strategies

To what extent should a company's shareholders drive its capital allocation strategy—particularly its use of cash? While the increase in shareholder activism has put this question up for debate, investors are increasingly feeling empowered to influence how companies use their resources, and are driving specific actions. Nearly half of directors say their company increased share buybacks as a result of actual or potential investor demands, while another 38% say the company initiated or increased dividends. These actions speak to the challenges that management and the board face in balancing execution of the company's long-term strategy with what some investors may want the company to pursue in the short term.

Has your company made any of the following changes to its capital allocation strategy to be responsive to actual or potential investor demands?



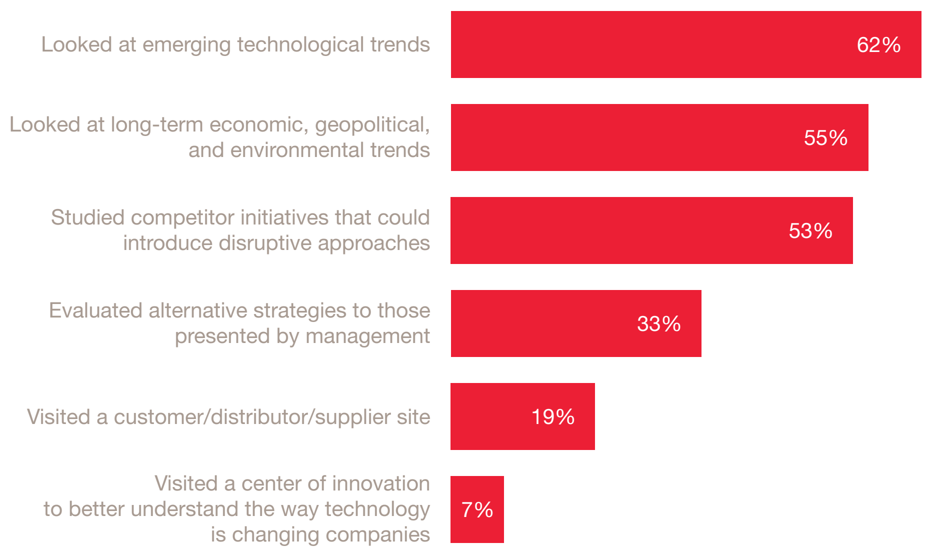
Base: 548
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

Board approaches to strategy

When it comes to reviewing company strategy, there are a number of practices that boards frequently employ. A majority of directors say their board looks at emerging technological trends (62%) and long-term economic, geopolitical, and environmental trends (55%). A similar proportion (53%) study competitor initiatives that could introduce disruptive approaches and one third evaluate alternative strategies to those presented by management.

Directors are less likely to participate in visits to customer, distributor, or supplier sites, or to centers of technological innovation; less than one in five say their board has done so to better understand their company's business or the impact of new technologies.

Which of the following has your board done in the past 12 months regarding strategy?

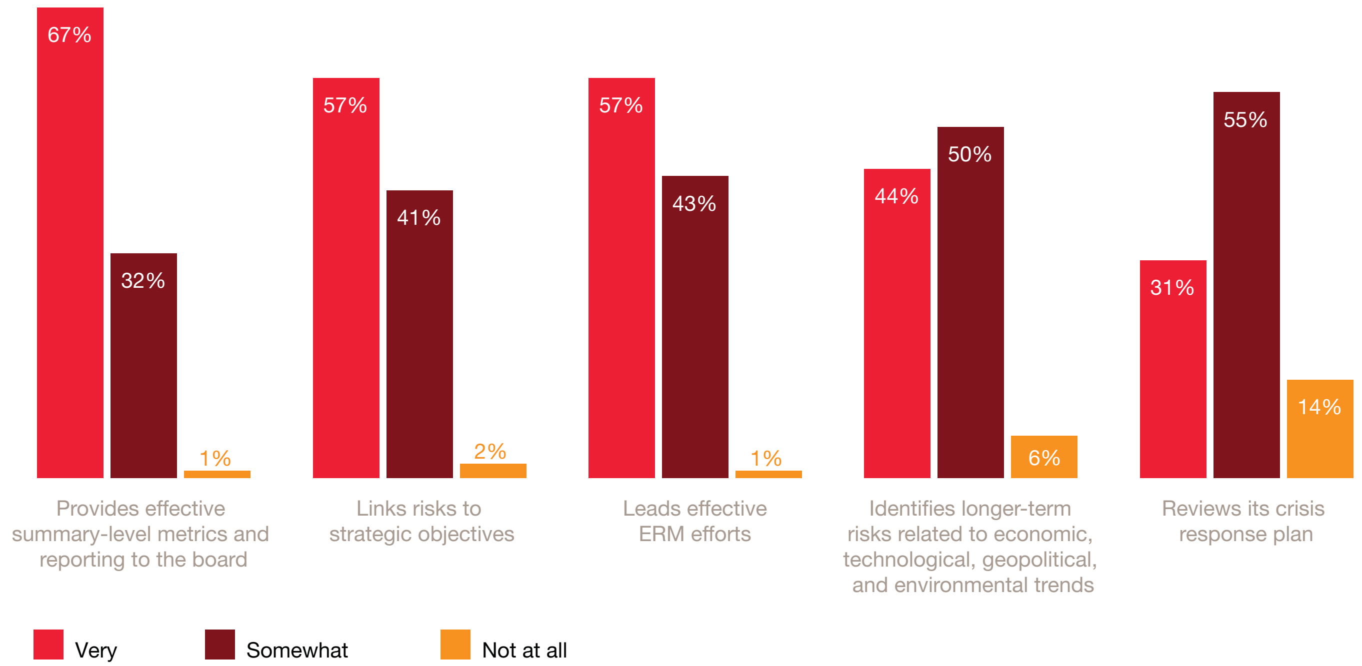


Base: 757
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

How good are we at risk management?

Directors generally believe that their management teams have a good handle on risk. About two-thirds say management is very good at providing effective summary-level metrics and reporting to the board. Nearly six in ten think management does an excellent job of linking risks to strategic objectives and leading effective enterprise risk management (ERM) efforts. However, directors voiced some concern about management's review of the company's crisis response plan; less than one-third believe management does this very well and 14% say management doesn't do it well at all.

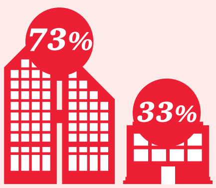
In your opinion, how well do you believe management performs the following activities:



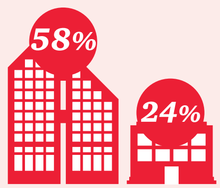
Base: 796–797
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

Deeper insights

Directors at the largest companies are more likely to think management leads effective ERM efforts and identifies longer-term risks;



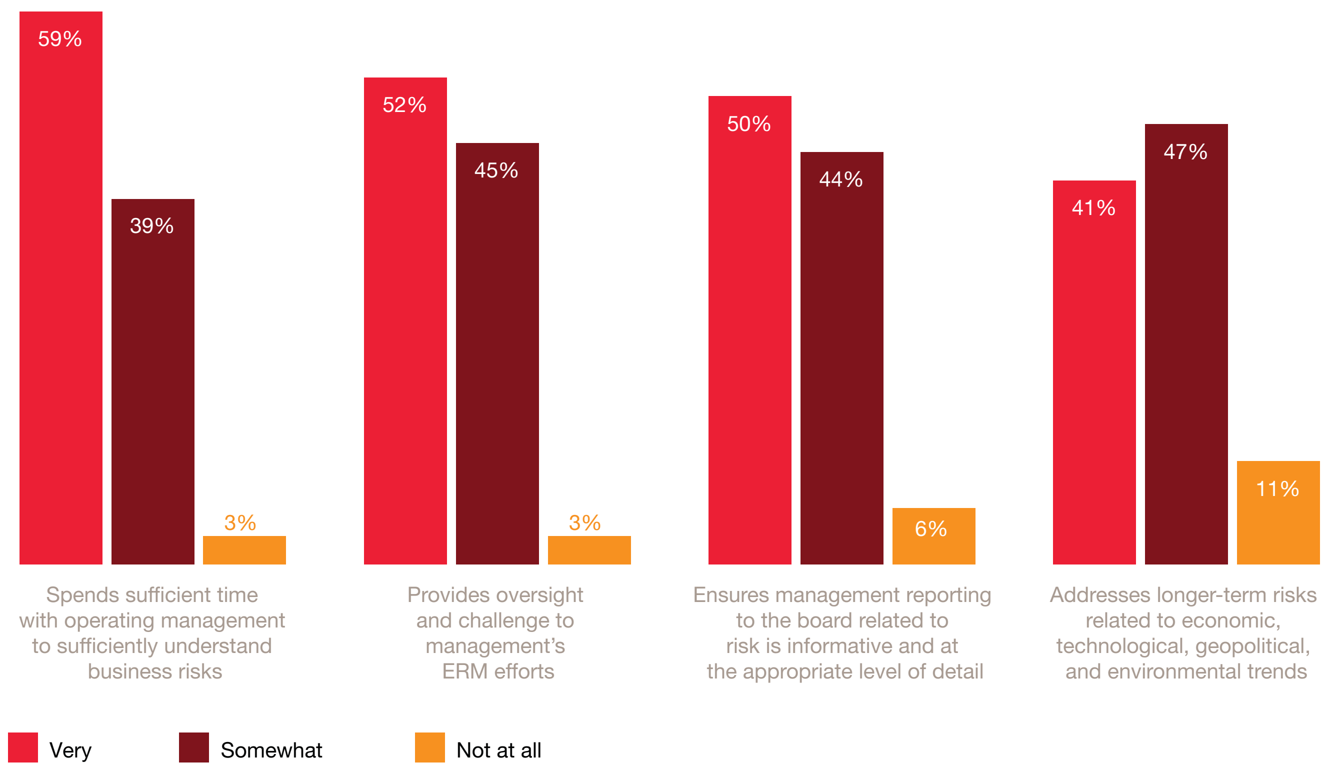
73% of directors at mega-sized companies** think management leads effective ERM efforts very well, compared to **33% of directors at smaller companies.



58% of directors at mega-sized companies** think their management teams identify longer-term risks related to economic, geopolitical, and environmental trends very well, compared to **24% of directors at smaller companies.

Directors have a high degree of confidence in their board's ability to oversee the risks facing their companies; more than half believe that their board performs very well when it comes to spending sufficient time with management to understand business risks and providing oversight and challenge to management's ERM efforts. A similar number say their board does an excellent job at ensuring management provides risk reporting that's informative and at the appropriate level of detail. While directors are confident in their discussions with management on this topic, they are less comfortable discussing risk oversight with investors as compared to other topics (see page 12).

In your opinion, how well do you believe your board performs the following activities:



Base: 795–797
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

Deeper insights

Directors with greater tenure are more likely to think their board provides very effective oversight and challenge to management's ERM efforts;

***58%** of directors with tenure of more than ten years believe their board performs very well, compared to 19% of directors who have served on their board for two years or less.*

Do risk committees work?

Where risk oversight should reside at the board level is a hot topic of debate. While a majority of boards continue to assign risk oversight responsibilities to the audit committee, a growing number have made risk oversight a full-board function. One quarter of directors stated that their board has a separate committee tasked with risk oversight. Of those boards that do have risk committees, all directors surveyed believe they are at least somewhat effective. However, more than half of directors (55%) say their board doesn't have a risk committee and don't believe one is necessary. On the other hand, 14% of directors are either discussing establishing a risk committee or think their boards should have one.

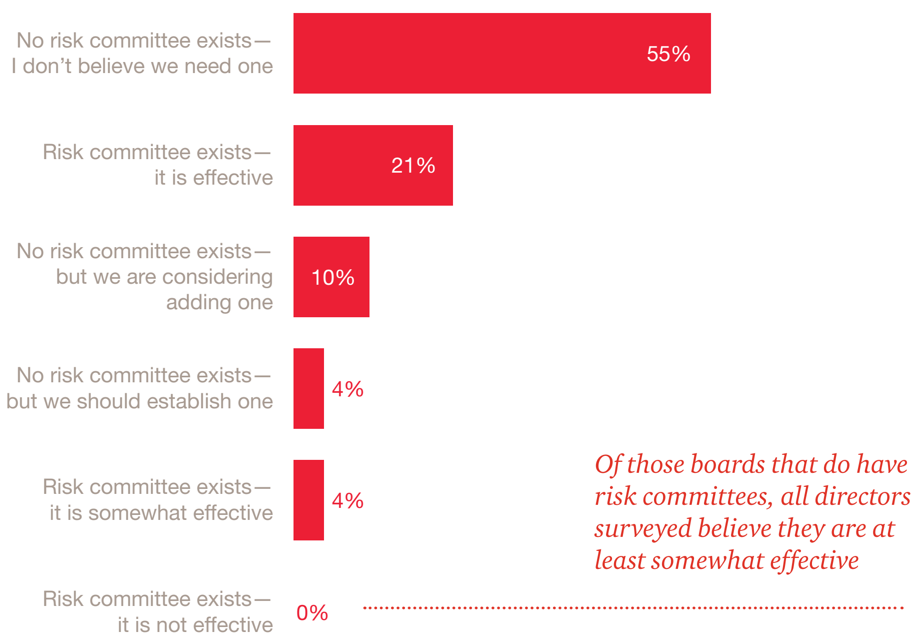
Deeper insights

Risk committees are far more prevalent in the financial services sector;

73%

of financial services company directors say their board has a separate risk committee, compared to 17% of directors from companies outside of financial services. This could be, in part, because many financial services companies are required by the Dodd-Frank Act to have risk committees.

Which of the following represents your current board practice and your views with respect to separate risk committees?

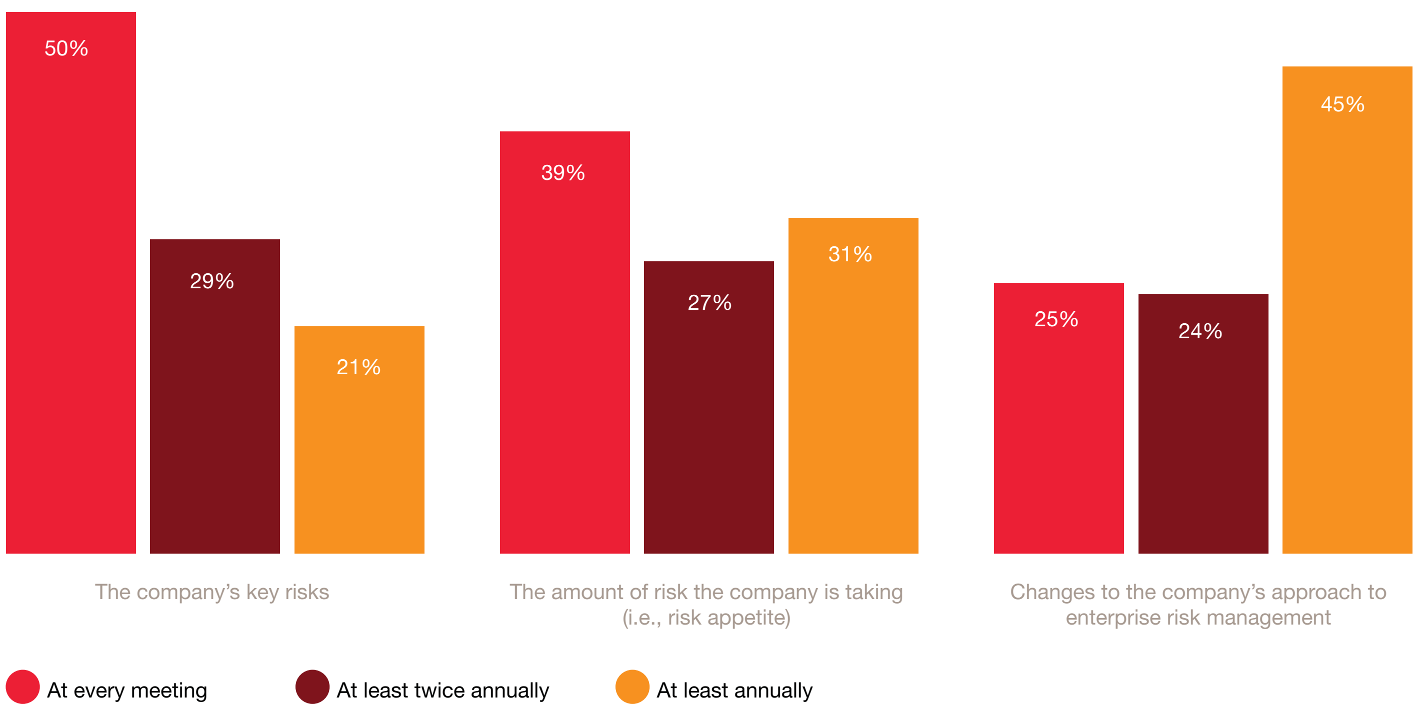


Base: 759
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

Staying updated on risk

Getting information on risk with the right frequency is a critical prerequisite for effective risk oversight at the board level. Only then are boards in a position to effectively contribute to company strategy, recognize potential disruptors in the marketplace, and ask the right questions of their management teams about their risk mitigation efforts. However, practices regarding the frequency of risk updates from management are diverse; half of directors receive updates on key risks at every board meeting, with 29% receiving these updates at least biannually and 21% at least annually. Management updates on the amount of risk the company is taking and changes to the company's approach to enterprise risk management are less frequent; 39% and 25% of directors say they receive such updates at every board meeting, respectively.

How often does your board get updates and reports from management on:



0–1% of directors responded 'Don't know';
1–6% of directors responded 'Never'

Base: 793–794
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

The toughest risks to oversee

While boards are tasked with overseeing risk in a number of different areas, a few were identified as particularly challenging. Directors are most likely to rate strategic/disruptive risk, IT risk, competitive risk, US compliance/regulatory risk, and operational risk as among the most challenging areas when it comes to oversight. They are less likely to view third-party risk, social and environmental risk, and fraud risk as providing much challenge.

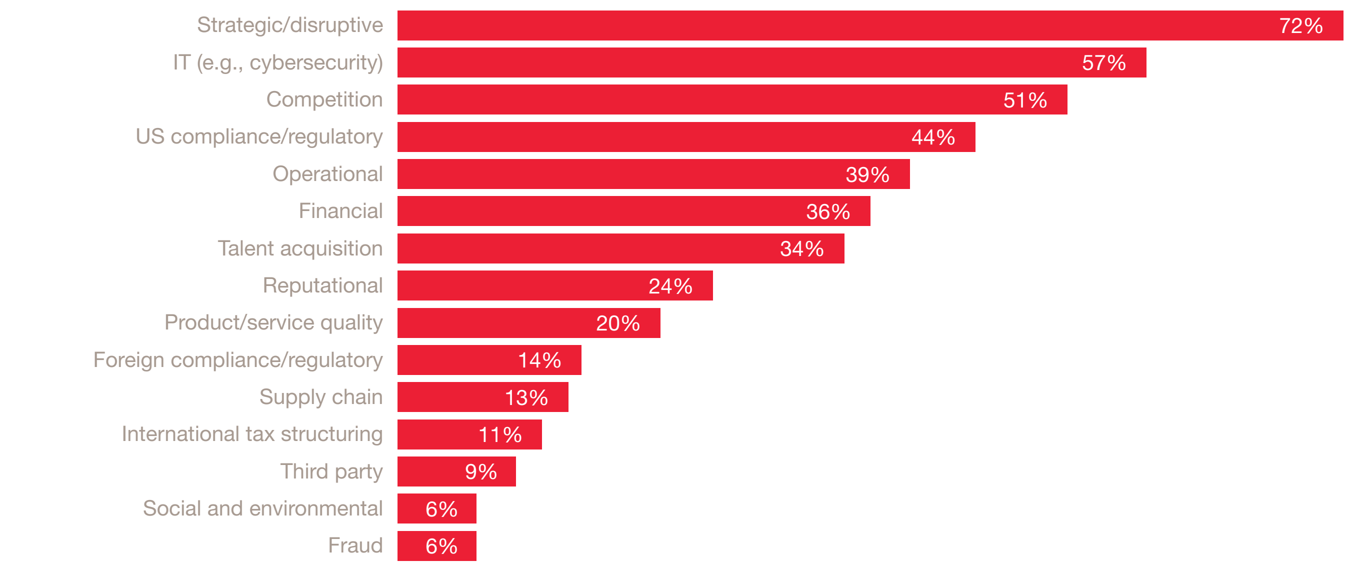
PwC perspective Third-party risk

Today's companies are increasingly integrated with their suppliers, distributors, and other providers. Consider that third parties provide so much leverage to today's companies that as a group, 89 companies in the Fortune 500 average over 100,000 suppliers each—that's over 9 million total direct supplier relationships.

With these relationships comes risk; companies are exposed to risk related to the actions of their third-party providers. In fact, according to our analysis performed in 2014, over the prior five years, intermediaries were involved in three out of four cases of bribery of public officials. Also, every bribery case prosecuted by the Department of Justice in 2012 involved a third party.

For tips on overseeing third-party risks, see our ***Audit Committee Excellence Series: Oversight of third-party risks***.

Which of the following risks pose the greatest oversight challenges to your board?



Base: 795
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

Executive compensation and CEO succession

Who's driving executive pay?

Compensation consultants continue to have the strongest influence on director decisions about executive compensation. Fifty-four percent of directors describe them as very influential—up 17 percentage points from 2013. Proxy advisory firms also saw their influence increase over the last several years; 59% of directors now describe them as at least moderately influential, compared to 49% three years ago. But CEO pressure declined as an influence; only 34% of directors now describe it as at least moderately influential (compared to 45% who said so in 2013).

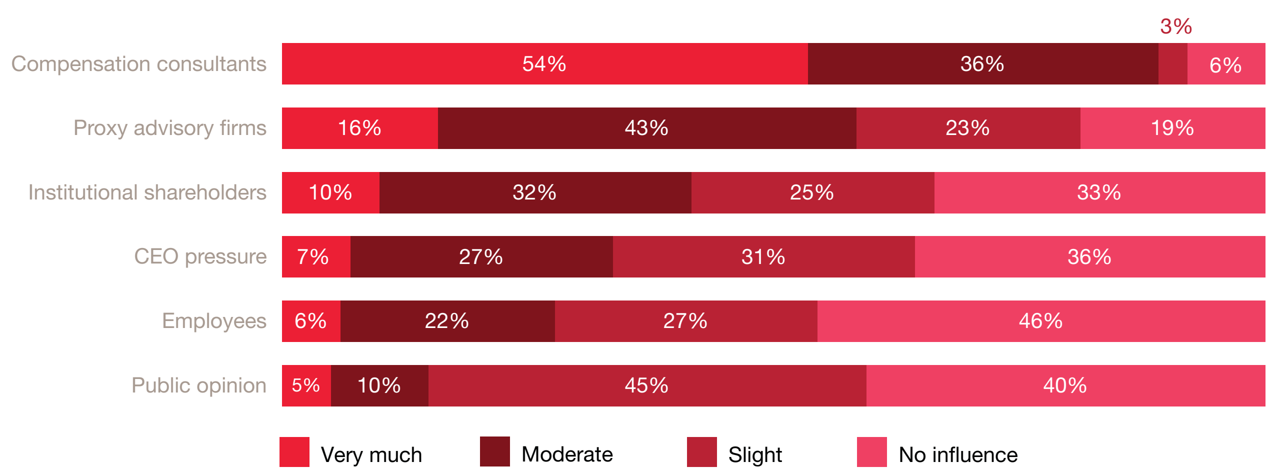
Deeper insights

Directors at smaller companies think compensation consultants have a greater influence on executive compensation;

63%

of directors at smaller companies think compensation consultants are very influential on their board's decisions about executive compensation, compared to 39% of directors at mega-sized companies.

Rate the level of influence that the following have over your board's decisions on executive compensation:

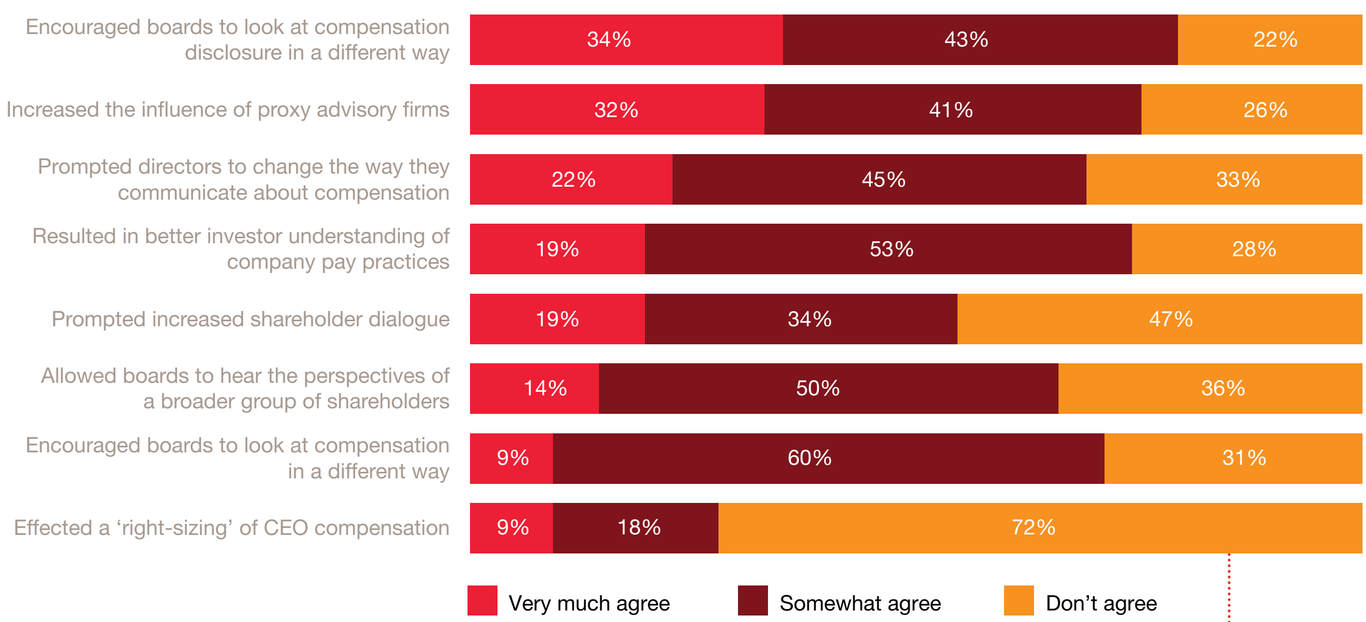


Base: 792–819
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

The real impact of say-on-pay

Shareholders continued to vote in favor of companies' overall executive compensation at high levels during the 2016 proxy season—with average say-on-pay support of 89%.[13] But what has the real impact of say-on-pay voting been since its inception in 2011? Seventy-seven percent of directors at least somewhat agree that say-on-pay voting has caused their board to look at compensation disclosure in a different way; 73% believe it increased the influence of proxy advisory firms. A similar number at least somewhat agree that say-on-pay has resulted in better investor understanding of company pay practices, and about two-thirds say it prompted their board to change the way it communicates about compensation. Yet say-on-pay is not generally seen as having reduced pay; 72% of directors don't think it has effected a 'right-sizing' of CEO compensation.

What is your assessment of the cumulative impact of say-on-pay voting?



Say-on-pay is not generally seen as having reduced pay; 72% of directors don't believe it has effected a 'right-sizing' of CEO compensation

Base: 752–808
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

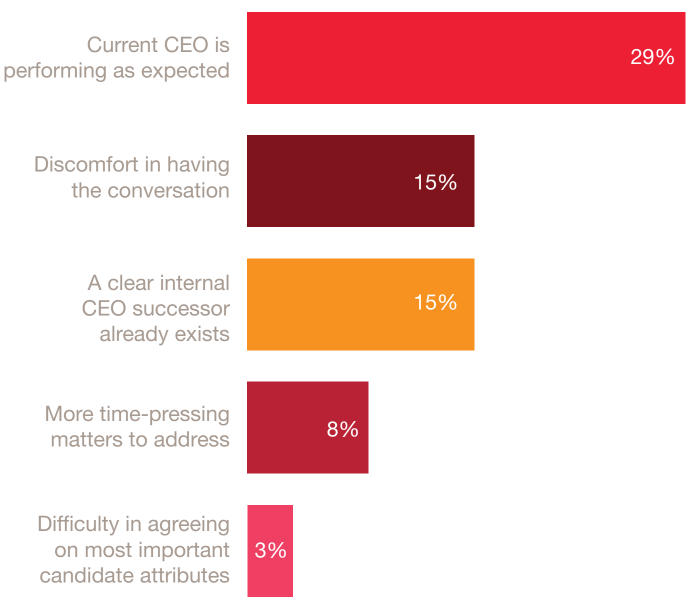
13 PwC + Broadridge, *ProxyPulse 2016 Proxy Season Review,* September 2016.

Challenges to CEO succession planning

Ensuring that the company has a robust CEO succession plan is a critical board responsibility. But there are a number of factors that may be preventing some boards from focusing on CEO succession to the extent they would like; 51% of directors say they want to spend more time on succession planning (see page 17).

Directors say that the single greatest challenge to more timely and effective CEO succession planning is that the current CEO is performing as expected (29%). However, the current CEO's performance should not factor into the board's need to have a robust succession plan, as emergency succession events may occur, and boards and companies need to be prepared for them. An equal number of directors (15%) each say the greatest challenge to more timely and effective CEO succession planning is discomfort in having the conversation or that a clear internal successor already exists.

What is the single greatest challenge to more timely and effective CEO succession planning?



29% of directors responded 'None of the above'

Base: 764
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

PwC perspective CEO succession planning

With a 16.6% CEO turnover rate at the world's 2,500 largest companies in 2015—the highest in the past 16 years—CEO succession planning is getting much more focus from boards. The decision-making process depends on many variables, but data from a recent study from Strategy&, PwC's strategy consulting team, shows that the background of the directors who are making the decision have just as much influence on the process as the candidates themselves. And as boards continue to focus on this topic, they need to be aware of biases they may bring to the table; for example, a board made up of individuals with diverse backgrounds might arrive at a different decision than a more homogeneous board.

Low-performing companies tend to choose external candidates because they can bring fresh ideas or skills that the current management team may lack. High-performing companies may tend to go with a less disruptive plan that would more likely focus on an internal candidate—if available. Interestingly, when the board chair and other board members were insiders, the board was more likely to choose an internal candidate. In other words, board members seem more comfortable mirroring a similar path than deviating from it. Companies that have historically chosen internal CEO candidates were more likely to continue to do so. Similarly, those boards that selected an external candidate once were more likely to do so again.

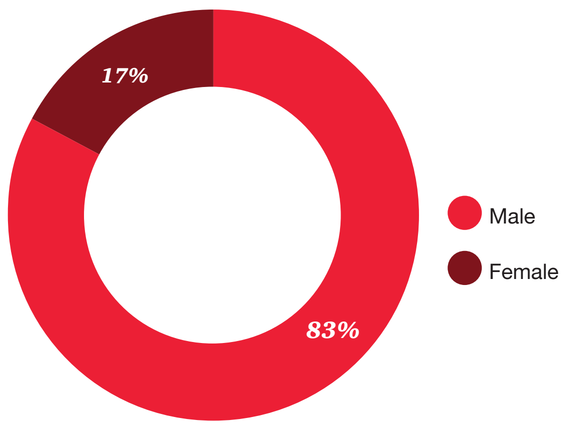
Given the fast pace of change that multinational companies are experiencing today, plus the impacts of shareholder activism and talent shortages, boards should be cultivating both internal and external candidates in their CEO succession plans—regardless of the performance of the current CEO.

For more information, see Strategy&'s ***2015 CEO Sucess study***.

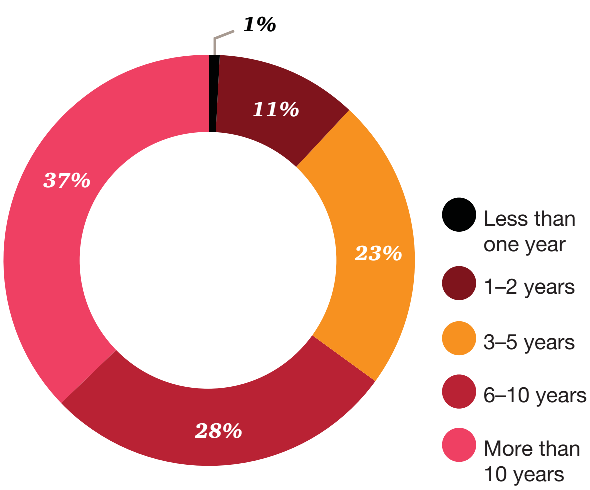
Demographics of survey participants

Demographics

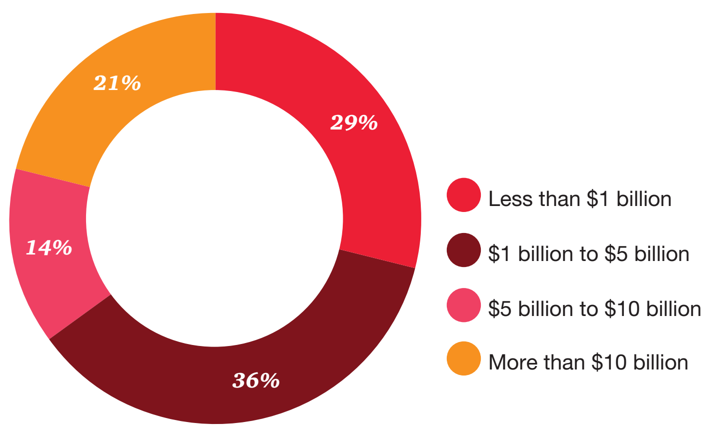
You are:



How long have you served on this board?



What are the annual revenues of the company?



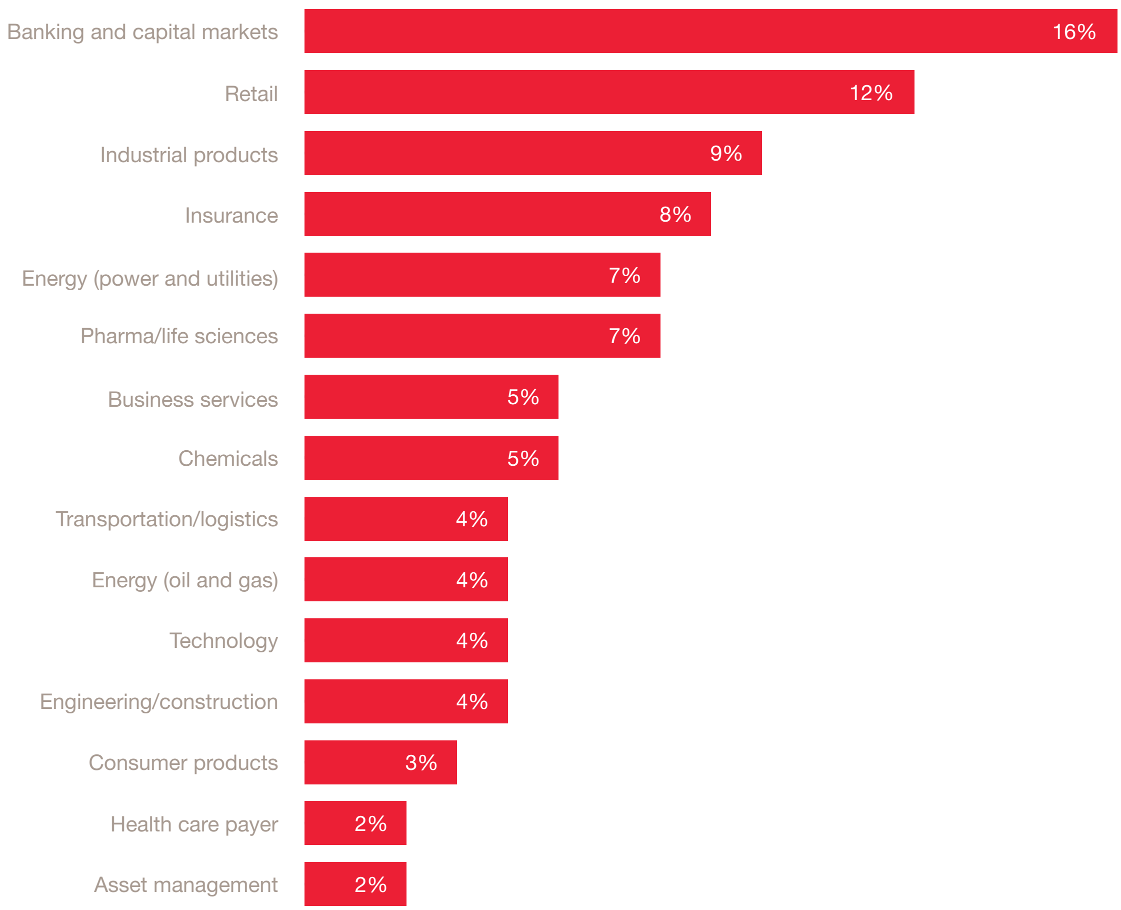
Base: 812–817
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

Note: The company sizes referenced in the report reflect the following annual revenues:

Mega-sized companies	Large companies	Mid-sized companies	Smaller companies
More than $10 billion	$5 billion to $10 billion	$1 billion to $5 billion	Less than $1 billion

Demographics

Which of the following best describes the company?



Each of the following industries comprised approximately 1% or less of survey respondents:
Health care provider, Software/internet solutions, Automotive, Mining, Semiconductor, Government contracting, Communications, Hospitality/leisure, Agra business, Forest, paper and packaging, Entertainment/media.

Base: 812
Source: PwC, *2016 Annual Corporate Directors Survey*, October 2016.

How PwC can help

To have a deeper discussion about how this topic might impact your business, please contact your engagement partner or a member of PwC's Governance Insights Center.

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Top financial services issues of 2017

Thriving in uncertain times

December 2016
Financial Services Institute

Our annual discussion of the themes that will define the year ahead. What can you do now to prepare for success in 2017?

pwc

Table of contents

Introduction

2017: The rules have changed

The competitors facing asset and wealth managers, banks, and insurance companies aren't who we thought they were.

Emerging technology presents incredible opportunities—for someone else. And change is fast. The customers seem to be changing their minds about what they value most.

Well, nobody ever said it would be easy. For some, this is a time of great opportunity. For others, it's the end of an era.

This report, our inaugural look at the top issues facing financial institutions in the coming year, is a chance to put it all in perspective. For each topic, we look at the current landscape, share our view on what will likely come next, and offer our thoughts on how you can turn the situation to your advantage.

Technology trends

It's no secret that financial services has become a digital business. But the speed and extent of the transition is downright jarring. **Artificial intelligence** now drives the way leading firms provide everything from customer service to investment advice. **Blockchain**, with its ability to store information on distributed ledgers without a central clearinghouse, could upend a variety of businesses. Digital labor, or **robotic process automation**, is helping firms automate things they couldn't do before, without having to hire an army of developers. And all of this depends on robust **cybersecurity**, to hold off threats that are coming from multiple directions.

The business environment

How business is conducted is shifting too. For decades, American firms have looked to the United Kingdom as the gateway to Europe, but **Brexit** could change this. Firms are focusing on jurisdictional analysis and what they'll need to expand in the UK or move directly to the EU. In the US, the **regulatory environment** will likely be affected by new appointments to the federal agencies and some targeted Dodd-Frank rollback by Congress. And as the industry grapples with **risk management culture, ethics, and trust**, it often finds itself playing defense.

Economic factors

The economic backdrop for these forces also keeps changing. Asset and wealth managers, banks, and insurance companies once primarily competed against their own kind. They still do—but now, they also face **competition from nontraditional market players** with skills, funding, and attitude. And in a prolonged low interest rate environment, many now look at **cost containment** as one of the keys to survival. Finally, we see firms in a scramble for top line growth, organically and through acquisition, in a **search for new revenue opportunities**. Staying the same means falling behind.

"As financial institutions look to 2017, we recommend that they start with a longer view.

In a decade, market leaders will still be helping to finance infrastructure, enable commerce, preserve and expand wealth, and help consumers live better lives.

The needs won't go away, even if the way we fulfill them changes."

A look back

Eight years after the financial crisis, one might think that things would be back to normal. But, while financial institutions have shored up their balance sheets, control environment, and compliance processes in each line of defense there are a whole new set of challenges to deal with:

- Low interest rates and changing regulations have meant that certain business lines no longer make economic sense for some firms
- Aging technology infrastructure at many firms simply can't cope with demands of a highly networked, mobile-first client base
- We're about to see an unprecedented transfer of wealth across generations, but millennials may have very different priorities and expectations for managing assets

This past November, the US experienced one of the more pivotal (and unexpected) election outcomes in modern times. And it's quite possible that we'll see similar results in other major economies in the year ahead. In the US, some potential outcomes in the year ahead include:

- Significant uncertainty around international affairs
- Tax changes, which could buoy financial institutions and create challenges for realization of deferred taxes
- Some targeted Dodd-Frank rollback by Congress
- Broad impact on financial regulation from new appointments to the federal agencies
- More infrastructure spending and private investment
- Rising interest rates and uncertainty around inflation

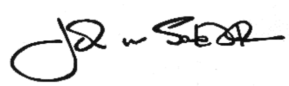
The road ahead

As financial institutions look to 2017, we recommend that they start with a longer view. In a decade, market leaders will still be helping to finance infrastructure, enable commerce, preserve and expand wealth, and help consumers live better lives. The needs won't go away, even if the way we fulfill them changes.

Leaders are making difficult choices, focusing on the capabilities that set them apart from their peers, and saying "no" to anything that isn't essential. They're investing in technology to serve current and future clients. They're partnering with innovators and experimenting with new business models.

It's an exciting time.

For more than a century, PwC has worked with clients around the world to build trust in society and solve important problems. We're pleased to share this outlook with you and would like to hear your thoughts. Please reach out to me or any of our PwC service team members.



John Stadtler,
US Financial
Services Leader

December 2016

pwc.com/us/en/financial-services.html
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01

Artificial intelligence

Chatbots. Personal assistants. Robo-advisors. Machine learning. Cognitive computing. And so much more. While the term artificial intelligence (AI) has been around for 60 years, it has finally become part of our daily lives—and how we bank, invest, and get insured. Some financial institutions have been investing in AI for years. Other firms are now beginning to catch up thanks to advances in big data, open-source software, cloud computing, and faster processing speeds.

A look back

Is it AI or is it not? AI means different things to different people. Here, we focus on what some call "weak AI"—machines capable of performing specific tasks that normally require human intelligence such as visual perception, speech recognition, decision-making, and language translation.

Something ventured, something gained. AI startups have raised more than US$2 billion in venture capital funding this year.[1] This is clearly seen as one of the more promising technologies, with a bright future.

Not on the same page or algorithm. Each sector applies AI differently. For example, insurance leaders use AI in claims processing to streamline process flows and fight fraud. Banks use chatbots to improve customer experience. In asset and wealth management, AI adoption has been sporadic, but robo-advisors are rapidly changing that.

Going behind the scenes. Some firms use AI to model scenarios for capital planning, or use natural language processing and graph processing techniques to flag transactions for compliance reviews. These uses are lower profile, but they'll have a big impact as they move toward mainstream.

Why aren't more firms relying on machines? Two thirds of US financial services respondents said they're limited by operations, regulations, budgets, or resources, according to our 2016 Global Data and Analytics Survey: Big Decisions™.

The road ahead

The machines won't take over—yet. AI will gradually replace humans in some functions like personal assistants, digital labor, and machine learning. But challenges will persist because of bias, privacy, trust, lack of trained staff, and regulatory concerns. Augmented intelligence, in which machines assist humans, could be the near-term answer.

So much insight. With advances in big data, open-source software, cloud computing, and processing speeds, more firms will use cognitive computing and machine learning to perform advanced analysis of patterns or trends. For example, firms may use AI to help spot nonstandard behavior patterns when auditing financial transactions. Firms may also use AI to sift through and analyze thousands of pages of tax changes.

Make way for more robo-advisors. With the new DOL fiduciary rule, we could see an uptick in robo-advice due to pricing pressures on commissions. Robo-advice is also morphing to bionic advice by combining digital and human delivery of advice.

Cognification? Digital twins? What? We'll evolve more from digitization and automation to what many now call cognification. We expect to see firms use AI more often with processes that rely on machines to make very specific decisions. We'll also see companies modeling how customers might react to various scenarios, testing assumptions on users' digital twins.

What to consider

Where to start? We recommend that you pick two different types of problems as you explore AI technology solutions:

- Some should be *operational* so that you show productivity improvements. Review and select the various AI technologies that can solve these problems.
- Others should be more *exploratory* in nature. For example, if you're asking whether you can "get better customer satisfaction and retention by analyzing the audio data from call centers," you might not have a specific metric in mind. However, applying AI to this problem may yield insight that other techniques can't.

Make AI an extension of your data analytics team. Mature organizations might choose to set up a new chief AI officer role. But if your firm is in the early stages of adoption, view AI as an extension of current analytics capabilities instead.

Find the right balance between human and machine. There's a balance between servicing costs and the need for good customer service. You should design off-ramps, swapping customers over to live support if an AI customer interaction or other transaction should falter.

Learn more

Top Insurance Industry Issues in 2016: Artificial Intelligence

Sink or Swim: Why wealth management can't afford to miss the digital wave

Next in technology: Artificial intelligence blogs

DOL's fiduciary duty rule

PwC's Global Data and Analytics Survey 2016: Big Decisions™

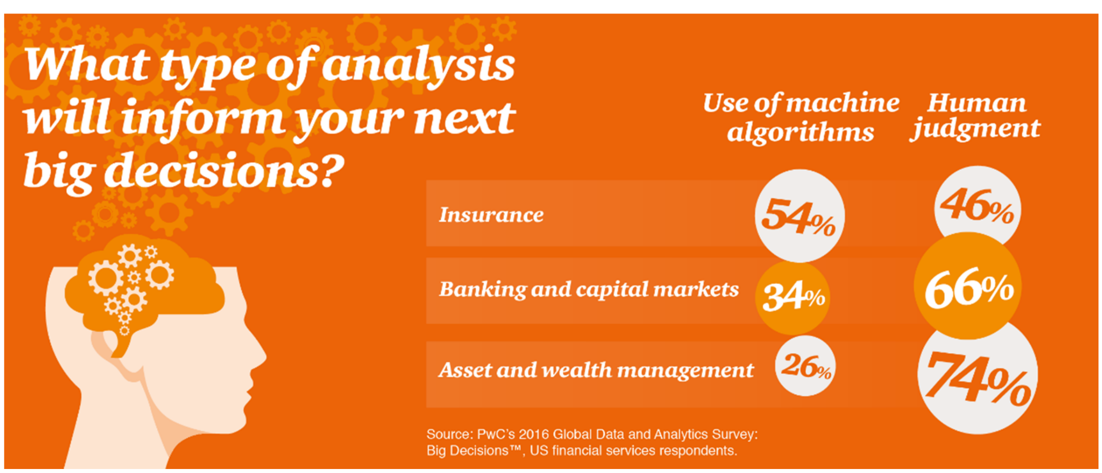
Financial services technology 2020 and beyond: Embracing disruption

Tech breakthroughs megatrend: How to prepare for its impact

Tax function of the future: Unlocking the power of data and analytics

> ***"Artificial intelligence can help people make faster, better, and cheaper decisions. But you have to be willing to collaborate with the machine, and not just treat it as either a servant or an overlord."***
>
> **– Anand Rao**
> *US Analytics Group Innovation Leader*

Figure 1: Insurers are more comfortable making big decisions using machine algorithms than others in the industry.



02

Blockchain

Blockchain is one of the more exciting—and more misunderstood—emerging technologies. It essentially offers a decentralized ledger of all transactions across a network: When a transaction occurs, everyone on the network knows about it. It's tamper-proof and virtually instantaneous. This has real disruptive implications for the financial industry, which today uses other processes to keep records for asset transfers and more.

A look back

Beyond bitcoin. In 2015, if we asked people about blockchain, most would answer, "Isn't that related to bitcoin?" Blockchain *is* the technology behind bitcoin, but it can do so much more, and this is now becoming clear.

Meanwhile, in the lab... In 2016, nearly every major financial institution was experimenting with blockchain. Many firms have started by working with in-house innovation groups to develop proof-of-concept (PoC) projects. They've been doing this by themselves and in partnership with others. One consortium claims more than 70 financial institutions.

It's not just financial institutions. Governments and other central authorities are getting involved. In 2016, for example, we helped one central bank develop a PoC using distributed ledger technology to settle payments. Major stock exchanges have launched initiatives to test the technology with nontraditional asset trading. Clearing houses have their own projects, too.

Betting on blockchain. We follow 158 blockchain-specific companies in 24 industry subsectors on our DeNovo strategy platform. This shows the wide-ranging and flexible nature of the technology.

The road ahead

Real-world applications. There are lots of promising blockchain applications across financial services. For example, we've estimated that blockchain could create the opportunity to save between US$5 billion and $10 billion in reinsurance. This is possible because of improvements to placement, claims settlement, and compliance checks. We're also seeing interesting activity in areas like clearing and settlement, trade finance, and mortgages. In the coming year, many firms hope to move from PoC to production to demonstrate immediate value. But to do this, they'll have to move beyond seemingly endless debates about how to untangle complex, legacy infrastructure.

Now, the hard part. After making some fairly big bets on the technology, firms should think more broadly about how to put it to work. Behind the scenes, there are technical issues being addressed: resolving communications and programming issues, data privacy and security concerns, regulatory concerns, standardizing the communications protocol, and so on. But for financial institutions, many of the most challenging issues aren't technical at all. Rather, they'll struggle to address items such as governance, standards, and "off-ramps" to other systems.

What to consider

Get going. There are many factors that ultimately drive whether or not a technology is widely adopted. Having a better tool doesn't always drive the decision, as we've seen again and again. And time can be a limiting factor. Once skepticism takes hold, it can be hard to overcome. To succeed, you should quickly decide which PoCs should be promoted to production. Again, this depends on more than just the technology itself. You should address the nontechnical components of a blockchain solution such as designing the future state operating model (including organizational design), business process management, and governance.

Think out of the box. Literally. One sign that a technology has matured is the emergence of vendors offering packaged solutions. It's increasingly possible for you to jumpstart deployment by using "Blockchain-as-a-Service" offerings. These are hosted services that include all aspects of the distributed ledger technology in a third party cloud environment.

Learn more

Q&A: What is blockchain?

Q&A: What might blockchain mean for the mortgage industry?

A strategist's guide to blockchain

Blockchain: The $5 billion opportunity for reinsurers

Technology forecast: Blockchain and smart contract automation

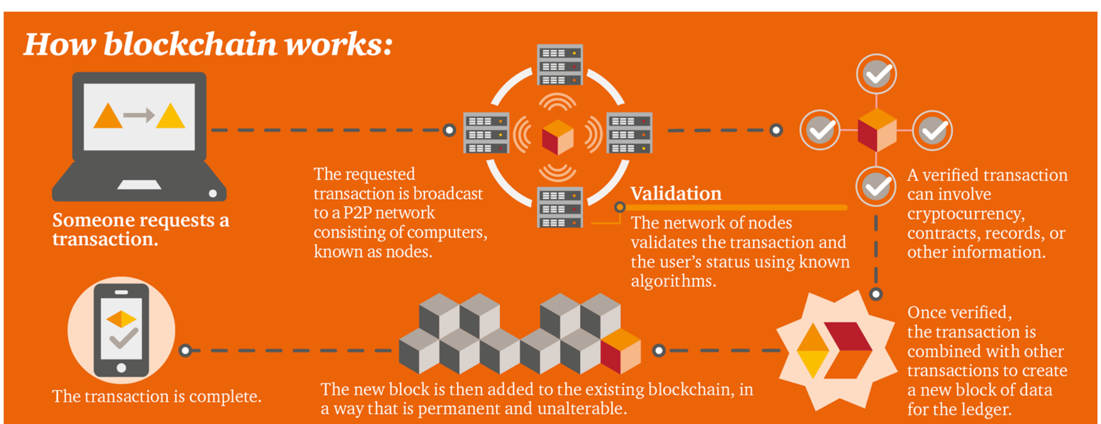
Strategy&: DeNovo Q2 2016: FinTech ReCap and Funding Review

PwC press room: Bank of England partners with PwC on distributed ledger PoC

"Even firms working independently are building capabilities that they'll use to improve interactions with others. We see a lot of nontraditional collaboration happening, too. With blockchain, it all comes down to better communication among institutions."

– Grainne McNamara
Principal, Financial Services

Figure 2: Blockchain offers an easy way to confirm that a transaction is valid.



Source: PwC, "Money is no object: Understanding the evolving cryptocurrency market," 2015, www.pwc.com/fsi.

03

Brexit

In June 2016, UK citizens voted to leave the European Union. Article 50 of the Lisbon Treaty, the clause that sets out how a member may withdraw from the EU, allows up to two years of negotiations once a departing state officially notifies the European Council of its intentions. At this time, the UK hasn't officially invoked the article, though the prime minister has indicated an early 2017 time frame. What should US financial institutions do now to prepare for various possible exit scenarios?

A look back

It's all about the timing. Since June's referendum, the situation in the UK has remained fluid, with new developments being reported almost daily. On October 1, Prime Minister Theresa May announced that the UK would trigger Article 50 no later than the end of March 2017. Almost exactly a month later, on November 3, the UK High Court ruled that the government needs a parliamentary vote for that to happen.[2] The government has appealed the ruling to the UK Supreme Court, and we expect a decision in early 2017.

Dreaming of a soft Brexit. A September 2016 PwC/CBI (Confederation of British Industry) survey found that only 15% of UK financial institutions were optimistic about post-Brexit business conditions in the UK.[3] The financial industry has been vocal in its desire to maintain passporting agreements that allow UK firms to sell their services across the EU and vice versa. They are looking to make sure they maintain their established business relationships in the EU.[4]

Turmoil, and then a pause. In the immediate aftermath of the vote, markets reacted harshly to the uncertainty. The value of the British pound plummeted, commercial real estate prices fell, and economic growth slowed. Still, there have been signs of resilience, and the initial volatility seems to have stabilized.

The road ahead

Waiting for Brexit. If Parliament must be allowed to weigh in, timing around issuance of Article 50 will become less clear. However, given the political climate in the UK, we still expect that the official notice will be given during 2017. Meanwhile, the UK is beginning to prepare for the lengthy trade negotiations ahead.

UK recession unlikely in 2017. We expect UK GDP growth to slow to 1.2% in 2017 from approximately 2% right now. This is mainly due to the drag on investment from increased political and economic uncertainty. We also expect the Bank of England to keep monetary policy unchanged, at least over the short term.

More UK trade with the US? Post-Brexit UK trade prospects depend on several key factors: securing the best possible access to the Single Market, a program of trade promotion in non-EU markets like the US, supply-side reform, and active engagement with other major international institutions such as the World Trade Organization (WTO). US financial institutions are also awaiting details of President-elect Trump's trade policies.

What to consider

Plan and plan again. Refine your contingency planning and risk assessments given possible exit scenarios. As part of this process, you should consider the customer impact of proposed operational changes. To maintain business continuity for clients, we recommend that you look for cost-effective moves that can be made now to protect your customer interests regardless of how the larger variables play out. Update your plans as new details arise.

Consider Brexit risk exposures. Financial effects are a concern for US companies that sell to, buy from, or operate in the UK or EU, or are engaged in their financial markets. You should review contractual agreements quickly to understand Brexit exposures. You should also focus on reporting triggered by currency volatility, changes to hedging strategies, collectability of receivables, potential asset impairments, and intercompany activity.

Don't lose key talent. As you plan, think about which employees could be affected. Communicate clearly with them and address their concerns.

Consider long-term tax strategies. Brexit will affect how individuals and businesses are taxed. You should plan for changes to VAT, corporate taxes, customs duties, and more.

Learn more

Not just across the pond: How US financial institutions prepare for Brexit

Changing coverage? Brexit's effect on US insurers and reinsurers

Making a withdrawal? Brexit's effect on US banks and capital markets firms

Trading insecurities: How US asset management firms prepare for Brexit

US Business: Where to look for your Brexit exposure

Brexit: Further implications for US sponsors of UK pension plans

What does Brexit mean for US boards of directors?

Economic prospects after Brexit: UK Economic Outlook November 2016

"Successful financial institutions will think carefully about the messages they give their customers and employees. These stakeholders are talking about Brexit already, so it makes sense to offer reassurances. Don't make them guess what you mean."

– Bill Lewis
Global Financial Services Risk & Regulation Leader

Figure 3: Optimism falls after Brexit referendum vote.

Source: "Optimism continues to fall, as challenges increase for financial services – CBI/PwC Financial Services Survey," PwC UK, pwc.blogs.com, September. 26, 2016, accessed November 15, 2016.
Note: Percent of UK respondents who said that they were more/less optimistic when asked to compare the current business situation with three months earlier.

04

Competition from nontraditional market players

The rise of financial technology—FinTech or InsurTech, for short—is changing the way people and companies save, pay, borrow, and invest. The environment includes tech companies, infrastructure players, and startups, along with incumbents. The FinTech formula for success is simple: use technology and mobile platforms to slash costs and bypass intermediaries. New competitors often offer low-cost solutions that are simple to access and easy to use. In the process, they're upending the status quo.

A look back

Incumbents take notice. Some incumbents view startups as threats, and for good reason. In our 2016 Global FinTech Survey, respondents told us that they think more than 20% of financial institutions' business could be at risk to FinTech. But many established firms are also starting to view FinTech as an opportunity. After all, better, faster, cheaper innovation could benefit them as well as their customers.

A year of experimentation. In 2016, incumbents moved away from acquisitions and started to look instead at partnerships with startups. We've also seen firms creating proof of concepts and/or working with consortia to enhance operations and improve efficiency.

Regulators trying to strike the right balance. As FinTech and InsurTech gain footholds, regulators and government officials, often led by Asia and Europe, have tried to find ways to encourage innovation in the financial services industry. At the same time, they want to protect consumers and keep risks in check. In the US, the Office of the Comptroller of the Currency (OCC) has proposed a framework for a special purpose national charter for FinTech companies. Regulators at the Consumer Financial Protection Bureau (CFPB), meanwhile, have declared that banks don't have the right to deny third parties access to customer data if customers want to share it.

The road ahead

The next wave of innovation. In 2017, we expect the footprint of FinTech and InsurTech to continue to expand in many areas including asset and wealth management, capital markets, digital cash, treasury functions, and insurance. We also expect to see growth in digital identity and regulatory technology (RegTech). RegTech typically describes the use of emerging technologies by regulators to help them manage systemic and other risks.

The role of emerging technologies. Blockchain, robotic process automation (RPA), and artificial intelligence (AI)—three of our other Top 10 issues—will also gain ground in 2017. And they are moving so fast it's hard to keep up. In fact, some companies are hiring people to focus full time on understanding emerging technologies.

Open access. New technology offerings are becoming more integrated into the operating models of many financial institutions. This is being driven by a growing emphasis on application programming interfaces (APIs). More firms are using APIs to let third parties develop apps and tools that can offer customers entirely new services. Of course, cybersecurity will be a concern, too.

Shakeout ahead? A downturn could be the ultimate test for FinTech and InsurTech startups too young to have lived through a full economic cycle. How will they respond if the economy stalls and investments dry up?

What to consider

Embrace digital infrastructure. You will need a digital core supporting an open-API model to integrate FinTech into your operating model. These days, you should link to mobile and desktop users, third parties, back-office systems, and more—securely and seamlessly. Cloud-based infrastructure can help you do this faster.

Open business models require a new way of thinking and working. You should become more agile, planning and delivering more quickly, and partnering with disruptors. But this isn't just a technology change. You should expect to bring together different skills, talents, and personalities.

Innovation doesn't just happen. If you want to succeed, you should create a kind of digital "sandbox" to experiment with new ideas and to test out partnerships with other organizations. You'll need to be willing to fail fast, bring on new partners to work with your platform and data, and learn from your mistakes. And when you decide you're onto something good, work quickly to bring the idea back to the broader organization.

Learn more

Q&A: What is FinTech?

Blurred lines: How FinTech is shaping financial services

FinTech: Headwinds or Windfall for Incumbents?

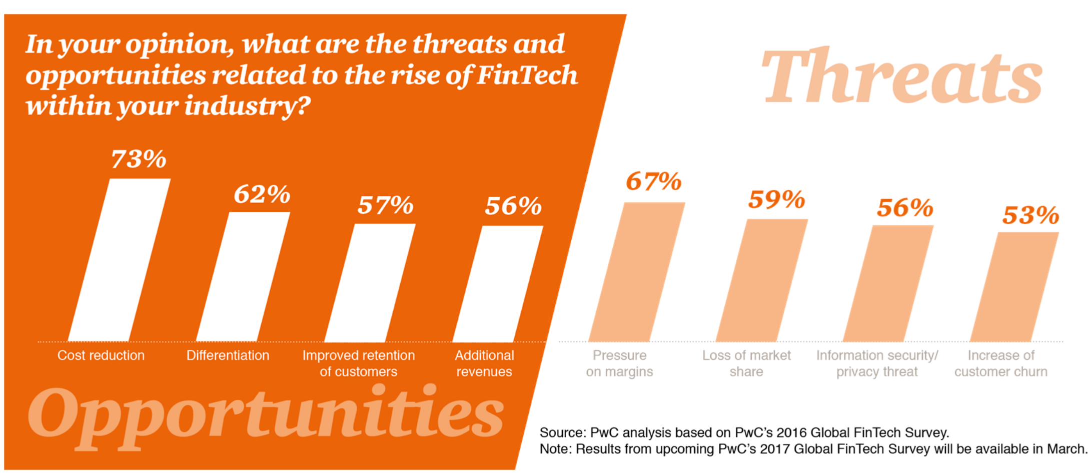
Financial services technology 2020 and beyond: Embracing disruption

DeNovo: A platform to understand how disruption impacts business strategy

"In this industry, it can be hard to stay ahead of all the exciting developments. There is a lot going on, and you should be able to quickly decide which technologies and business models really matter. To succeed, you should scan the landscape continuously, filter out what doesn't affect you, and act quickly when you decide that something is worth exploring."

– Manoj Kashyap
Global FinTech Leader

Figure 4: Financial institutions see both threats and opportunities from new market entrants.



Source: PwC analysis based on PwC's 2016 Global FinTech Survey.
Note: Results from upcoming PwC's 2017 Global FinTech Survey will be available in March.

05

Cost containment

Almost a decade after the global financial crisis, financial institutions still face a low-growth, low-margin, highly-regulated environment. To stay afloat in these difficult times, reducing costs remains a top priority. But few firms have a handle on costs across the enterprise, where cost problems exist, and how to manage them. They also struggle to make room in shrinking budgets for strategic investments.

A look back

What is driving cost pressure? These key factors are driving the industry to concentrate on cost containment.

- With interest rates at historic lows, firms are focusing more on noninterest income.
- Customers are putting pressure on financial institutions to innovate. New market entrants are providing a better user experience, often at a lower cost because they aren't saddled with an expensive legacy infrastructure. Existing firms feel the pressure to meet these customer demands while simultaneously modernizing their environment.
- Regulations have been a significant cost burden across the industry.

But where to cut? In recent years, financial institutions have taken advantage of shared services, process optimization, outsourcing, and offshoring to keep costs in check. Even with these changes, margins are still tight. Few firms have a good handle on costs across the enterprise, where cost problems exist, and how to manage them. As a result, firms are looking for fresh ideas, and the conversation has turned to a few key areas of investment, including technology, preparing employees for change, and finding ways to get change to stick.

The road ahead

What else are you willing to let someone do for you? In the coming year, financial institutions will be taking a harder look at what they really want to be good at so they can focus on their core mission and eliminate, reduce, partner for, or outsource almost everything else.

Digital tools. We'll see leading firms continuing their move toward using digital technology to cut costs, both in the short- and long-term. They'll look to tactical tools such as robotic process automation (RPA), document processing, as well as more innovative technology like blockchain and machine learning.

Deploy. Learn. Repeat. We expect financial institutions to move their new initiatives beyond the proof-of-concept stage. It's important for firms to create minimally viable products to understand and address customer feedback. Once they've found an offering that demonstrates value, they can build on their initial success.

What to consider

Think differently. You should question every expenditure to be sure it supports your overall business strategy. You should focus on functions you can excel at and find alternatives for everything else. You'll also want to restructure your organization to align with new operating models.

Don't be penny wise and pound foolish. When cutting costs, it's tempting to reduce all department budgets by the same percent. We think this is one of the bigger mistakes a firm can make. To get things right, start by drilling into your end-to-end cost structures. Trim expenses that don't differentiate the business and invest in capabilities that do.

You may need to invest to save. Cuts in vital areas might reduce costs now, but they may also undermine the future of the business. To support growth, you should invest strategically. For example, investing in emerging technologies around data and advanced analytics can lead to enhanced offerings and growth as well as streamlined operations and reduced costs.

Focus on talent. As you redesign your organization, you'll want to think through implications for your team. For example, what are your organization's critical roles? To support the differentiating capabilities that you want, what skills will you need?

Learn more

PwC's 19th Annual Global CEO Survey

Is your bank ready for growth? A more strategic approach to costs can help you prepare

More for less: Five steps to strategic cost reduction

Fit for Growth: A Guide to Strategic Cost Cutting, Restructuring, and Renewal

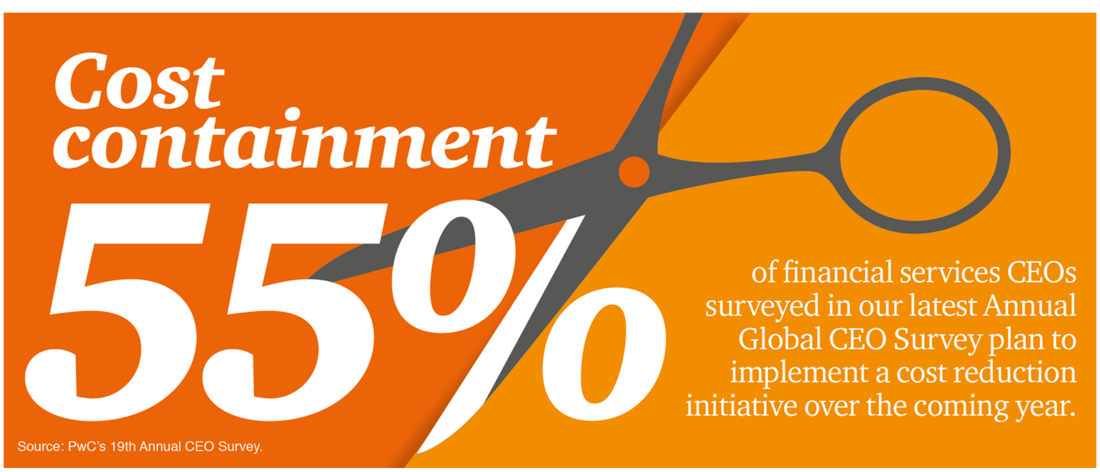
Is Your Company Fit for Growth?

Lean-led business transformation: A real change agenda for financial services

Insurance top issues: Are you fit for growth?

> ***"Many traditional cost-cutting techniques—centralizing, offshoring, outsourcing—are largely done. Now, we're seeing tactical uses of technology, like automation, to drive cost savings."***
>
> **– Kelley Mavros**
> *Partner, Strategy&*
> *Financial Services Advisory*

Figure 5: Most financial services CEOs planned to implement cost containment projects over the coming year.



06

Cybersecurity

Phishing. Ransomware. DDoS attacks. These are terms financial services security professionals have come to know intimately—and despise. Amid threats from individual actors and organized attackers, security teams have had to step up. As attacks have become more sophisticated, regulators are raising their level of scrutiny, and global cybersecurity and privacy legislation is changing. It's a big challenge for firms that have come to rely so heavily on digital technology.

A look back

Threat actors keep finding weaknesses to exploit. According to PwC's most recent Global State of Information Security® (GSIS) Survey, the most common type of cyberattack in 2016 was phishing. Firms also faced growing risks due to business email compromise, ransomware, and distributed denial of service (DDoS) attacks. And criminals and other threat actors aren't giving up, as shown by the SWIFT incident and rising concerns over payment systems.

Raising the bar. It's been a busy year for financial institutions as they've tried to keep up with additional cyber standards from the NAIC, the CFTC, and the NYDFS. In October, the Fed, OCC, and FDIC jointly issued an advance notice of proposed rulemaking on cyber risk management standards. While all of these standards are important, many firms struggle to reconcile the sometimes conflicting guidance.

Cyber risk and cybersecurity programs mature. As more sensitive data moves to the cloud, many financial institutions are upping their game. This year, 51% of US financial services respondents in the GSIS survey reported that they use managed security services for solutions like authentication and real-time monitoring and analytics.

The road ahead

Regulatory focus on cyber isn't going away. Cybersecurity isn't a partisan issue. Financial institutions will be pushed to collaborate more with regulatory bodies to collectively share information. They'll have better visibility into emerging threats—and a greater responsibility to prepare for them.

More collaboration. Most firms have realized the benefits of working together and with governmental bodies to prevent cyberattacks. The coming year will be no different. Industry collaboration will grow through venues such as Financial Services Information Sharing and Analysis Center (FS-ISAC) and new initiatives such as the Financial Systemic Analysis & Resilience Center (FSARC) and Sheltered Harbor.

Looking after consumer data. Firms must already comply with industry, state, federal, and international privacy regulations. The CFPB recently announced consumers can give permission for third parties to access their information.[5] Firms will likely share blame for mishandled data.

New technology, new challenges. Combining cloud services with tools like artificial intelligence and blockchain will introduce new risks—and require new approaches to combating those risks.

As business goes digital, cyber spend increases. In fact, 54% of US financial services respondents to our GSIS survey plan to spend more on beefing up security in the mobile channel.

What to consider

Integrate cybersecurity, anti-fraud, and anti-money laundering efforts. You'll improve your ability to ward off threats by combining analytics from pooled data, strengthening your risk management environment, and implementing controls more effectively.

Find the regulatory balance in the guidance. Focus first on building a robust risk-based cybersecurity program. This can help you achieve your broad strategic objectives while also complying with regulatory requirements.

Establish an independent, second line of defense. Keep your security governance and oversight capabilities separate from cybersecurity design, implementation, and operations. Also, your second line of defense should engage the board and its risk committee on cyber topics.

Anticipate risks from third parties. Recognize the potential for increased risks when outsourcing. Collaborate with third party vendors to make sure they take the right measures to protect your data.

Speed innovation by focusing on cybersecurity up front. When designing and developing new digital products and services, you should integrate cybersecurity and privacy in the beginning stages.

Learn more

Top Cyber Trends to Watch

2017 Global State of Information Security® Survey: Financial Services

Cyber: Global data transfer still in disarray

SWIFT action: Preventing the next $100 million bank robbery

Cyber: New York regulator moves the goalposts

Cyber: Regulators putting market infrastructure to the test

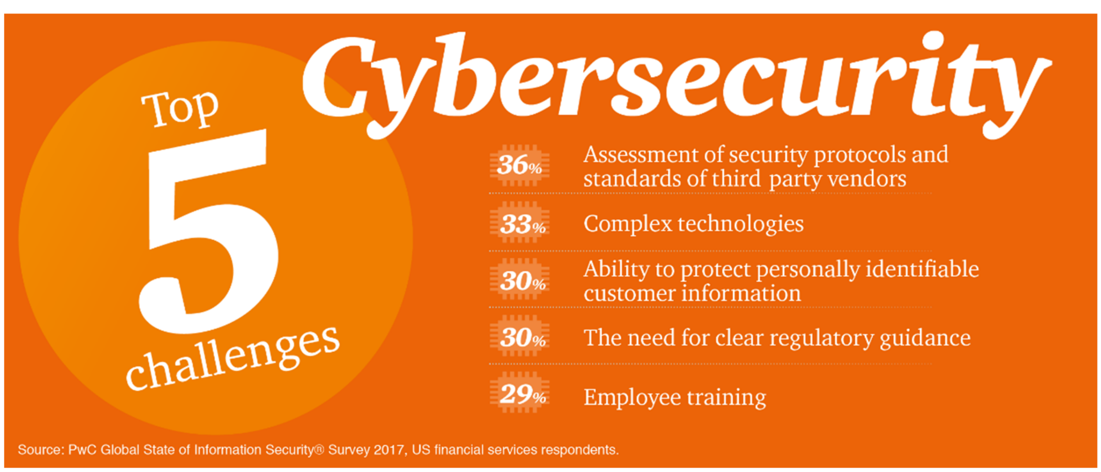
Cyber: Banking regulators weigh in

Top Insurance Industry Issues in 2016: The promise and pitfalls of cyber insurance

"Cyber expectations are growing. Firms need to balance rapid innovation with the need to provide both seamless customer service and privacy protection."

– Joseph Nocera
Financial Services Cybersecurity Leader

Figure 6: Many financial institutions have improved their cybersecurity programs, but challenges still remain.



07

Regulatory environment

Compared to the rest of the world, the global competitiveness of the US financial services sector has never been stronger. Despite (or because of) the pains of Dodd-Frank and its related rules, the industry has made substantial improvements. Most US financial institutions have transformed their balance sheets, structure, and business models to compete in the post-crisis regulatory world. With a new administration ahead, financial institutions are now thinking strategically about what's next.

A look back

New rules, new standards. Regulations continue to be a top priority for financial institutions. In the past year, there has been a particular focus on:

- **Comprehensive Capital Analysis and Review and Dodd-Frank Act Stress Test.** While post-stress test results for this year were better than last year's, the Fed noted that complex firms continue to lag in several areas—specifically, risk identification, self-assessment of weaknesses (a governance issue), and internal controls.
- **Resolution planning.** In April 2016, the Fed and the FDIC deemed five of the eight largest US banks' 2015 resolution plans not credible. Smaller banks were off the hook this year with a one year delay on their next resolution plan filing.
- **The DOL fiduciary duty rule.** On April 6, the DOL released the long-awaited fiduciary regulatory package which sets a new standard for advice given to retirement investors. Under this final package, financial advisors who provide investment advice will face limits on receiving commission-based compensation. With up to 50% of US retail financial assets in retirement accounts, the impact of the rule will be widespread across asset managers, broker dealers, and insurance companies. The industry has already made significant progress toward compliance with the rule.

The road ahead

Many questions, few answers, and a lot of uncertainty. In our paper Donald Trump's victory: Ten key points, we offer the following predictions about financial regulations under the new administration:

1. Dodd-Frank will not be repealed.
2. However, some targeted Dodd-Frank rollback by Congress will occur.
3. President-elect Trump's broadest impact on financial regulation will come from his appointments to the federal agencies.
4. Stress testing and resolution expectations will continue easing for smaller banks and stop rising for the largest ones.
5. Priority Fed rulemakings will proceed, but other rulemakings are far less likely.
6. The SEC will likely complete its derivatives rules this year.
7. Asset management rules will be hard for the SEC to complete.
8. The DOL's fiduciary duty rule will remain intact, but compliance deadlines face delay.
9. The FSOC will likely shift its mission toward identifying opportunities for deregulation.
10. AML and sanctions regulation will stay on course.

What to consider

The regulatory environment will continue to evolve in 2017 and beyond. To thrive in the middle of complexity, you'll have to be ready to adapt.

Prepare for the DOL fiduciary duty rule. While the April 10, 2017 compliance deadline may change under the new administration, you should continue your work to meet the rule's requirements and consider the DOL's recently released FAQs for further guidance.

Continue stress testing and resolution planning. Both Republicans and Democrats have pressured the Fed and FDIC for years to address possible big bank failures. We predict that expectations for the larger banks will stop rising. But large firms still have to address the deficiencies and shortcomings in both capital stress testing and resolution planning that the agencies have recently identified. Meanwhile, regional banks shouldn't take the one year delay on their 2016 resolution plan filing as an opportunity to put pencils down. The December 2017 deadline will be here soon enough.

"With the new administration, we think small institutions can expect supervisory requirements to ease up. The largest banks are likely to see fewer enforcement actions too, but the changes may not come as quickly."

– Bill Lewis
Global Financial Services
Risk and Regulation Leader

Learn more

Donald Trump's victory: Ten key points

DOL fiduciary rule: Election impact and FAQs

A Practitioner's Guide to Banking Regulation: Mastering the New Regulatory Landscape

Governor Tarullo's speech on stress testing and the Fed's NPR

Fed's 2016 DFAST

2016 CCAR results

Ten key points from Agencies' resolution plan feedback

Discussion and analysis on other current regulatory issues

"The DOL fiduciary duty rule is about customer protection, transparency, and eliminating conflicts of interest. While the timing of complying with the rule might change under the new administration, as of now we expect the core framework to remain intact."

– Adam Gilbert
US Financial Services
Risk and Regulatory Co-Leader

08

Risk management culture, ethics, and trust

Among the many risks that financial institutions face, one is often overlooked: the risk related to organizational culture. As high-profile incidents of unethical behavior rattle the financial services industry, risk management culture, ethics, and trust are in the limelight. In 2017, financial institutions will be asking: Can we build a strong risk culture that drives consistency across geographies and lines of business? Can we rebuild trust in the industry?

A look back

Culture, ethics, and trust in the headlines. Unlike recent years, when stories about collusion in high-stakes trading businesses dominated the discussion, we've now seen bad behavior in consumer-facing areas like call centers and branches focused on deposits and lending.

Industry making strides. Despite recent events, the industry as a whole has progressed. We see substantial progress since we published our 2014 Global Banking Risk Culture survey. We see more enterprise risk culture programs, more focus on the best interests of customers, more boards holding management accountable for changes in employee behavior, and new technology to track and measure progress.

Still room for improvement. While firms are doing better overall, they still struggle to drive consistency across geographies and lines of business. Many institutions haven't yet managed to get the tone in the middle to align with the tone at the top.

It's bigger than banking. Regulators are focused on prevention and punishment across financial services. The Department of Labor's new fiduciary rule, for example, is designed to encourage ethical behavior by requiring asset managers and insurers to act in the best interest of each client.

The road ahead

No tolerance for unethical behavior across the industry. The change in the geopolitical landscape in 2017 won't likely abate regulators' and legislators' concerns around risk culture. Customers and shareholders want to interact with institutions they trust, and reputational damage over the long term can be far more costly than punitive fines.

More emphasis from directors on fixing the problem. Where harmful unethical behavior is blatant, we're likely to see high-profile management changes to signal that the board takes ethics seriously.

Stakes higher in a world with artificial intelligence. As the industry adopts artificial intelligence, programmers will need to code both prescriptive rules and principles-based algorithms. The financial institution will be on the hook if the automated advice doesn't uphold a fiduciary duty.

"Financial institutions need to be on their best behavior. Regulators are visiting. Congress is watching, and so are customers. It's no easy task."

– Mike Alix
Financial Services Advisory Risk Leader

What to consider

Build the right culture. Your firm's culture should promote behavior that emphasizes following both the rules and their underlying principles. This should occur even at the expense of short-term revenue generation.

Not just management's role. Your audit and risk committees should assess your organization's culture. The tone at the top shapes an organization and drives behaviors.

Don't forget about the tone in the middle. Many firms focus too much on the tone at the top and not enough on the tone in the middle. Real issues arise when managers don't embed the firm's culture in their daily activities. Your firm's values and ethics need to be modeled in *all* interactions.

Examine risk culture throughout the talent lifecycle. The risk culture should be embedded from onboarding to promotion decisions to employees leaving the firm. As regulators continue to examine sales practices, for example, you should examine the potential unintended consequences of existing compensation and incentive plans.

What gets measured gets done. You should use risk culture surveys to measure changes in employee behavior. Using these tools across the firm allows leaders to measure, analyze, and adapt.

Learn more

Sales practices: OCC exams and beyond

DOL fiduciary rule: Election impact and FAQs

State of Compliance Study 2016

Forging a winning culture

Risk turns corporate culture into a hard trait

Culture: Linking Strategy and People

Cure for the common culture: How to build a healthy risk culture

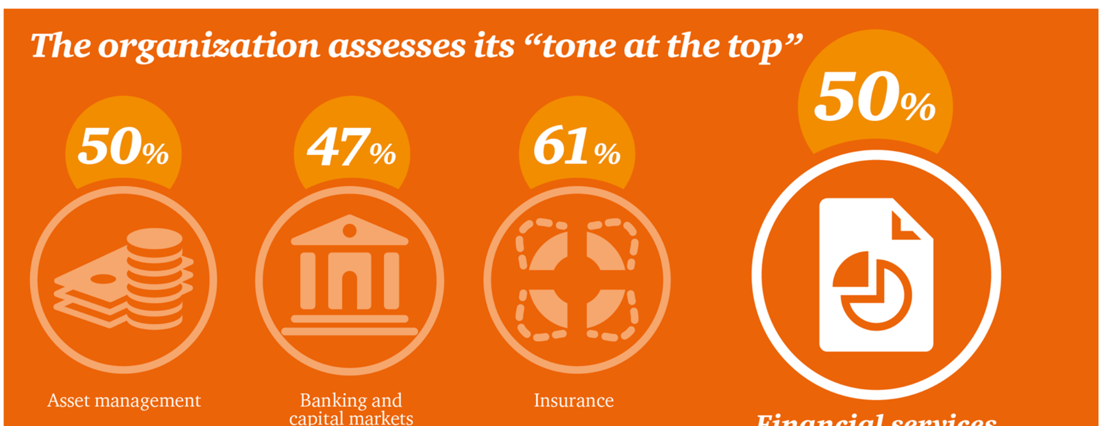
Bank culture: It's about more than bad apples

Here today, gone tomorrow: Contingent workers in financial services

"Firms need to embed risk culture into every part of the talent lifecycle. Are we hiring the right people? How effective are background checks? How are target behaviors embedded through performance goals and rewards? How does increased employee engagement influence an effective risk culture?"

– Bhushan Sethi
Financial Services People & Organization Practice Leader

Figure 7: Many financial firms are not doing enough to assess tone at the top.



Source: PwC State of Compliance Study 2016, US financial services respondents.

09

Robotic process automation

Automation has grown up. In recent years, a new class of software known as “digital labor” or robotic process automation (RPA) has emerged. The terms describe logic-driven robots that execute pre-programmed rules on mostly structured, and some unstructured, data. Financial institutions are looking to these tools to automate a wide range of activity without the need for complex programming. We think 2017 could be a breakout year for the technology.

A look back

Testing: one, two. In 2016, many financial institutions began to consider how to incorporate digital labor into their labor force strategies. But there’s a large gap between the leaders and everyone else. While most firms have started to experiment with RPA, they approach it as a technology solution rather than a staffing initiative.

What’s the use case? Most RPA projects in financial services have started by automating existing work, typically connecting legacy systems that don’t “talk” to each other. We’ve seen it used for reporting, reconciliation, data remediation, and other repetitive work.

Not scaling up yet. For most, these are early days for RPA. Across the sectors, we’ve seen a lot of proof-of-concept activity, but deployment at scale has been limited. As a result, many firms have yet to see a financial upside from their investments.

Who does the work? In a 2016 survey of RPA use in the financial services industry, PwC found that companies vary in their implementation of digital labor. Two thirds of the respondents are implementing RPA internally, either alone or with support from systems integrators, consultants, or software vendors. Others have turned to outsourcing vendors, typically as an extension of existing offshore projects.

The road ahead

What else can it do? Because software rules can be programmed by division analysts rather than IT developers, we expect that use cases will proliferate rapidly. These will expand from core operations into administrative functions such as human resources (recordkeeping) and finance (reporting).

The search for ROI. RPA deployment will hit a wall if firms don’t show adequate progress given their investment. Leaders can succeed by using RPA to enable better work, not just faster work.

Governance matters. Leading firms—and there aren’t many—are taking an enterprise-wide approach to digital labor. They’re establishing centers of excellence to coordinate vendor contracts, creating policies and procedures to address security issues, and more. We also expect to see a greater emphasis on control functions for RPA activities that address operational risks.

Robots that learn. RPA is seen by some as a basic application of artificial intelligence. Vendors are introducing a new generation of tools known as intelligent process automation (IPA). These applications allow the “bots” to learn and get better at what they do. These advances will make governance even more important.

What to consider

Plan, then automate. Make sure you look at the data and process flows that lie beneath the problems you're trying to fix. If you automate a bad process, you waste the benefit of RPA. We find that even a light process redesign can make a big difference. Then, look closely at using digital labor for the manual work that remains.

Organize for success. While you don't want to stifle innovation, you can benefit from taking a centralized approach. This will help you drive consistency in sharing best practices, negotiating with vendors, setting standards, developing training, and securing funding. A center of excellence can also help you manage risk and regulatory concerns. But guide rather than control. You'll need to strike the right balance.

Understand the trade-offs. Just because you have RPA doesn't mean you should stop your broader technology transformation efforts. As powerful as the technology is, it shouldn't replace your IT agenda.

Understand the risks. Just like other end-user computing programs, you should hold digital labor applications up to risk policy standards. This means documenting how they work, having effective plans in case humans need to step in to take over the work, and so on.

Learn more

Q&A: How can RPA and other digital labor help financial services institutions?

From theory to practice: Onboarding digital labor in financial services

Payback time: Improving ROI from digital labor in financial services

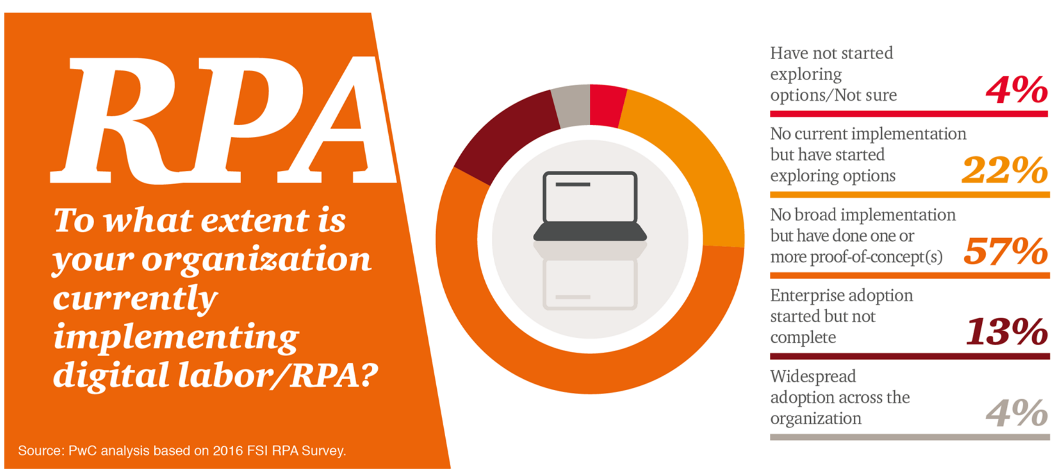
Organize your future with robotic process automation

Financial services technology 2020 and beyond: Embracing disruption

"Digital labor is giving financial institutions a once-in-a-generation opportunity to push a next generation discipline around business process efficiency."

— Kevin Kroen
Principle, Financial Services Advisory Practice

Figure 8: Firms are starting to explore RPA, but few have adopted it widely.



10

Search for new revenue opportunities

US financial institutions are finding it harder to secure new sources of revenue. Growing the top line is challenging as consumers grow accustomed to paying little or nothing for products and services. Banks, asset and wealth managers, and insurers are scrambling to find new ways to grow: organically, by introducing new services, through acquisitions, or by developing strategic partnerships.

A look back

I'd love that. Is it free? Customers are only willing to pay for services that truly create value for them. Inspired by their experience with other, advertising supported businesses, they've come to expect most services for free. They also want interactions to be effortless, personal, and fast.

Plugging into FinTech and InsurTech. FinTech startups really "get" their customers, often spotting needs and wants that previously went unrecognized. And they often reach those customers in fundamentally different ways. They have created new product categories, thanks to a growth in enabling technologies like mobile, cloud, and inexpensive storage. For legacy firms, this represents competition—but it also offers opportunity for new revenue streams resulting from increased innovation, partnerships, and acquisitions.

Drowning in data. The financial services industry collects more data on its customers than pretty much any other industry. But, so far, firms have struggled to extract the full value from that data.

Let's make a deal. From banking to insurance to asset and wealth management, 2016 had a somewhat lower M&A profile than the previous year. But some financial institutions still made strategic acquisitions to consolidate and to acquire technology.

The road ahead

All eyes on the Fed. Competition from startups and other technology players will continue to restrict margins. Even if interest rates rise, margins may not increase very much if customers look elsewhere for higher returns.

Have you truly gone digital? Based on experiences in other industries, consumers of all ages demand a more seamless, personalized experience from their financial institutions. Digital isn't just a delivery channel issue. Leading financial institutions will use digital tools to discover unmet needs. To do this, they will commit to strategic investments that let them understand how to meet those needs.

Taking advantage of data. We'll see leading firms analyzing structured *and* unstructured data to anticipate what will happen next rather than reacting to what already happened. This changes everything—from fighting fraud to preventing insurance losses to spotting new sources of revenue.

Working, together. The underlying conditions for M&A activity will remain in place in 2017, but we also expect firms to invest in developing alliances, partnerships, and joint ventures. These other business relationships can make it easier for them to address client needs more quickly. Some insurers may look to divest to escape a SIFI designation, and we expect an active private equity environment.

What to consider

Go where the customers are. Financial institutions should become part of the daily lives of their users. If you're targeting customers who want to achieve financial fitness, for example, you should provide products that bundle advice with reviews and service. You should also make interactions fun and rewarding.

Learn from the disruptors. FinTech and InsurTech companies succeed because they solve problems at the heart of the customer's needs. Once they do, they pivot to offer adjacent services. For example, many payments companies have expanded to lending. It's a natural extension: they already have the data they need to make smart lending decisions. You should observe how disruptors innovate, and then let it shape your own thinking.

Embrace imperfection. In this market, slow and steady loses the race. Learn to tinker and prototype more effectively, and then find ways to share your experiences broadly throughout your organization. To do this well, you should rethink how you approach business models.

Don't go it alone. You should stay open to new business models and nontraditional relationships. We expect to see a much greater emphasis on new ways to access and share data, as with open banking and application program interfaces (APIs).

Learn more

Q&A: What is FinTech?

Innovating to grow: a new world of opportunity for insurers

Asset and wealth management Q3 deals insights

Banking and capital markets Q3 deals insights

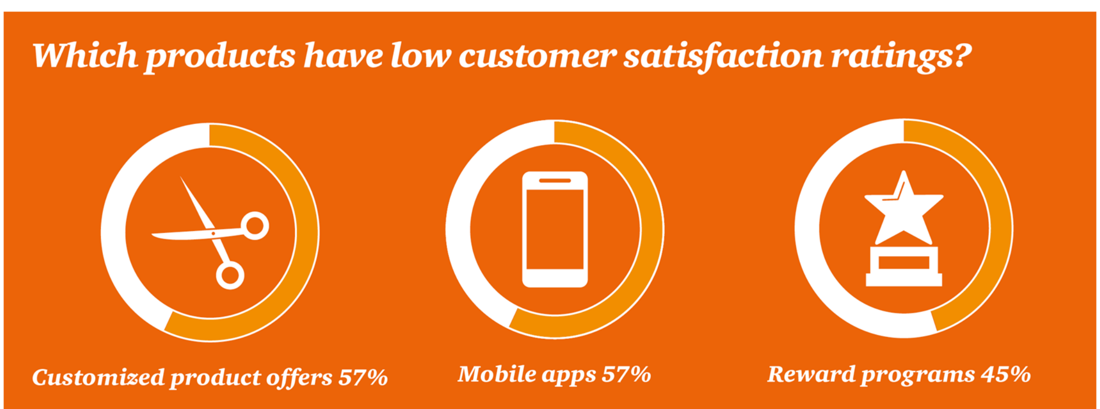
US insurance deals insights

Strategy& Wealth Management Trends

"No one knows what the perfect new business models are because they haven't been fully articulated or proven. To find sustainable revenue, firms should learn fast, fail fast, and partner as needed."

– Marie Carr
Global Growth Strategy in Insurance & Financial Services

Figure 9: Financial institutions often don't satisfy their customers' needs.



Source: PwC, "2015 PwC Consumer Banking Survey," 2015, www.pwc.com/fsi.
Note: Percent of respondents that were either satisfied or highly satisfied with each service from their primary financial institution.

Endnotes

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3 Monaghan, Angela, “Brexit anxiety taking its toll on financial services sector, CBI finds,” The Guardian, September 25, 2016, accessed on Factiva on November 18, 2016.

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5 Consumer Finance Protection Bureau, “Prepared Remarks of CFPB Director Richard Cordray at Money 20/20,” October 23, 2016, www.consumerfinance.gov, accessed on December 7, 2016.

Acknowledgments

About the PwC network

At PwC US, our purpose is to build trust in society and solve important problems. We're a network of firms in 157 countries with more than 223,000 people who are committed to delivering quality in assurance, advisory and tax services. Find out more and tell us what matters to you by visiting us at www.pwc.com.

About PwC's Financial Services Institute

PwC's Financial Services Institute (FSI) collaborates with our network of industry professionals in banking and capital markets, insurance, and asset management. We provide insights on topics like Brexit, artificial intelligence (AI), FinTech, robotic process automation (RPA), blockchain, risk and regulation, competition, and more.

PwC's Financial Services Institute

Marie Carr
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John Abrahams
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Greg Filce
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Kristen Grigorescu
Senior Manager

Shea Craig
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Rachel Winn Flam
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“Top financial services issues of 2017: Thriving in uncertain times,” PwC, December 2016, www.pwc.com/fsi.

Fall 2016

The Shield

A security newsletter for businesses

In this issue:

From cybercriminal gangs to legal risks — security threats highlighted at conference

Just like other profit-seeking enterprises, cybercriminal organizations are adept at exploiting emerging technology to stay ahead. For instance, criminals are using data analytics to gather information for nefarious purposes, cybersecurity expert Andy Chandler warned the nearly 600 attendees at the U.S. Bank 5th annual information security conference in September.

"The criminal infrastructure is continually evolving and maturing," according to Chandler, Senior Vice President of Dutch information technology security consultancy Fox-IT and one of nine speakers at the Trust in Us event in Minneapolis.

Bots, web-crawling software applications that penetrate internet-based accounts, collect massive volumes of discrete data elements about individuals. By themselves, the data elements don't yield enough clues about people's identity to do much damage. But when assembled through big data analytics, robust identity profiles are created that allow cybercriminals to wreak havoc, Chandler explained.

Criminals gaining greater global traction

The increasing efficiency with which criminals can obtain the data required to defraud companies enables them to abandon their traditional focus on the largest financial institutions and companies in northern Europe and the United States. A heat map of cybercriminal activity over the last year presented the increasingly global extent of criminal reach.

He also believes the "Business Club," the notorious syndicate of cybercriminal gangs that was substantially disrupted two years ago by multiple law enforcement agencies, is back in action. He sees the syndicate's fingerprints, such as the effective use of big data analytics, on the latest round of major cybercrimes.

What makes organizations vulnerable to social engineering-based cyberattacks hasn't changed. In Chandler's estimation, "it's the human tendency to talk and to click." The "talking" can mean casually spreading personal information around the internet that can be drawn into big data warehouses; clicking is what makes people vulnerable to malware.

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Embedding malware to attached Word documents emailed to employees of targeted companies has been a successful cybercriminal tactic recently, Chandler noted. Because Word attachments are ubiquitous in corporate networks, employees aren't sufficiently suspicious of them and fall into the trap.

Beyond technological solutions, the best remedy to cybercrime is an ongoing, aggressive effort to educate employees about keeping their guard up, Chandler said.

Legal hazards

Ultimately, organizations want to both prevent successful attacks and minimize legal liability in the event an attack is successful. "Unfortunately, the number of sources of legal risk is multiplying all the time," said another speaker, attorney Harriet Pearson, who chairs the international law firm Hogan Lovells' Cybersecurity Solutions Group.

One hazard is the prospect of lawsuits from customers harmed by a company's inability to deliver a promised service due to a cyberattack. Manufacturers also face similar legal concerns, particularly when their products contain potentially vulnerable electronic components. "The automobile regulators have become extremely active in reviewing manufacturers' cybersecurity posture," Pearson said.

Several federal regulators are pressing companies to have and follow detailed procedures designed to secure data from external and internal threats. "Enforcement activity is picking up," Pearson observed.

Data theft by internal "rogue employees" has become "an exceedingly common event," she added. Legal questions arising from what she calls "bad apple activity," as well as external threats, include:

- What steps were taken to prevent it?
- What steps were taken to detect it? And:
- How was it addressed when discovered?

Ultimately there is no way to guarantee safety from a cyberattack, Pearson said. Thus one of the biggest management challenges is determining what level of investment in cybersecurity measures would be deemed "reasonable" in the event of litigation stemming from a breach.

While there is no clear answer, taking security-enhancing steps after a careful analysis of an organization's particular vulnerabilities is the prudent way to go, she said.

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About Trust in Us

U.S. Bank held their 5th annual Trust in Us Conference on September 21, 2016. The free, invitation-only conference serves as a forum to hear from world-class experts to explore the complex and evolving cyber risk landscape. In addition to Andy Chandler and Harriet Pearson, participants heard from the following speakers: Jason Witty, U.S. Bank Chief Information Security Officer; Phil Agcaoili, Elavon CISO; Josh Corman, Chief Technology Officer for Sonatype; Michael G. Gelles, Director with Deloitte Consulting, LLP – Federal Practice; Philip Reitinger, President and CEO of the Global Cyber Alliance; Renee Tarun, Deputy Director of NSA Cyber Task Force; Dominic Venturo, Chief Innovation Officer at U.S. Bank; Valerie Abend, Managing Director and Head of the U.S. Cybersecurity Practice; and Keynote Speaker, Amias Gerety, Acting Assistant Secretary for Financial Institutions.

Contact your U.S. Bank representative if you would like more information or are interested in attending future U.S. Bank events.

Andy Chandler, Fox-IT,
at the 2016 Trust in Us conference

Harriet Pearson, Cybersecurity Solutions Group
at the 2016 Trust in Us conference

Jason Witty, U.S. Bank Chief Information Security Officer, speaks at the 2016 Trust in Us conference

Data breaches: an ongoing problem for businesses

Cybercriminals continue to look for opportunities to steal valuable data day and night. Their sophisticated attacks are specifically designed for widespread deployment. These attacks typically go unnoticed by business owners, detected only when fraud patterns are identified within a particular business segment. For example, recent breaches have involved malware injected into Point-of-Sale (POS) systems.

The ID Theft Resource Center (ITRC) has reported 638 confirmed data breaches since January 2016. According to ITRC reports, 2016 is set to outpace 2015 for the number of confirmed data breaches. The frequency and sophistication of these cyber-attacks against card data continues to be a growing problem for businesses, both big and small.

Business owners that want to protect themselves from the liabilities associated with a data breach should isolate sensitive payment information from their POS, which lessens the opportunity for exposure of the POS in the payment authorization process, thereby reducing the scope of Payment Card Industry Data Security Standard PCI DSS compliance requirements.

A robust approach to security that protects a business and safeguards customer card data includes the following:

- Format Preserving Encryption (FPE) utilizing advanced cryptography, which addresses the challenges associated with securing cardholder data upon initial entry into the payments ecosystem.
- Tokenization that replaces sensitive payment data with alias values or tokens that can be stored in lieu of sensitive card numbers. Tokens can be used for subsequent transactions like adjustments or voids, or may be utilized in the back office for accounting or analytics. Tokens are useless to criminals attempting to steal card data.
- EMV chip card technology authenticates payments to block counterfeit card transactions and can reduce costly card-present fraud related chargebacks.

Simplify® is a U.S. Bank security solution for payment devices that offers businesses the layered security approach necessary to protect sensitive card data from compromise. Through Simplify, businesses benefit from the security technology of encryption, tokenization and EMV, while being able to accept traditional swipe payments, newer EMV chip cards, and the latest in Near Field Communication (NFC) and contactless mobile wallets. Simplify integrates with all major POS providers, such as Oracle MICROS, and can seamlessly work with both current and legacy systems. Also, through Simplify, sensitive cardholder data can be isolated from the payment system. This supports better compliance with card data-related regulations like PCI DSS.

Ask your U.S. Bank relationship manager for more information about the importance of a layered security approach today.

Security best practices for online business banking: SinglePoint® and SinglePoint* Essentials

Security is important when you're managing your organization's finances online. If your business banks with U.S. Bank, you likely use our online business-banking portal SinglePoint® and/or SinglePoint Essentials for cash management and online banking. That's why, to ensure your safety, U.S. Bank uses advanced levels of online security and monitoring technology, and implements strict policies and procedures for handling your information.

In addition to SinglePoint security measures, we recommend you use a layered security strategy to protect your organization from unauthorized access or malicious activity. The following best practices can improve your organization's security when accessing SinglePoint:

1. Implement dual authorization (including an approver role) for online payments. Dual authorization is one of the stronger defenses against online payment fraud. The FFIEC, FBI, and Secret Service recommend it as a way to combat corporate account takeovers.
2. Have a workstation dedicated only for financial use. Block e-mail and non-financial site access on this workstation to limit opportunities for external network penetration.
3. Stay aware of your account and payment activity. Review the reporting your bank has available to ensure your payments were processed as intended.
4. Use fraud detection and prevention tools. For example, install IBM's Trusteer Rapport for financial malware protection. Trusteer Rapport is available, at no cost, to all U.S Bank clients using SinglePoint. Visit trusteer.com for more information.
5. Limit user access only to those individuals with a genuine business need. Review access periodically and revoke user access for terminated or transferred users.
6. Keep user account information secure. Never share user IDs, passwords or tokens — even within your organization.
7. Follow internet security best practices. Use a security firewall, keep anti-virus and anti-spyware software up to date, and use caution when receiving emails with links or attachments.

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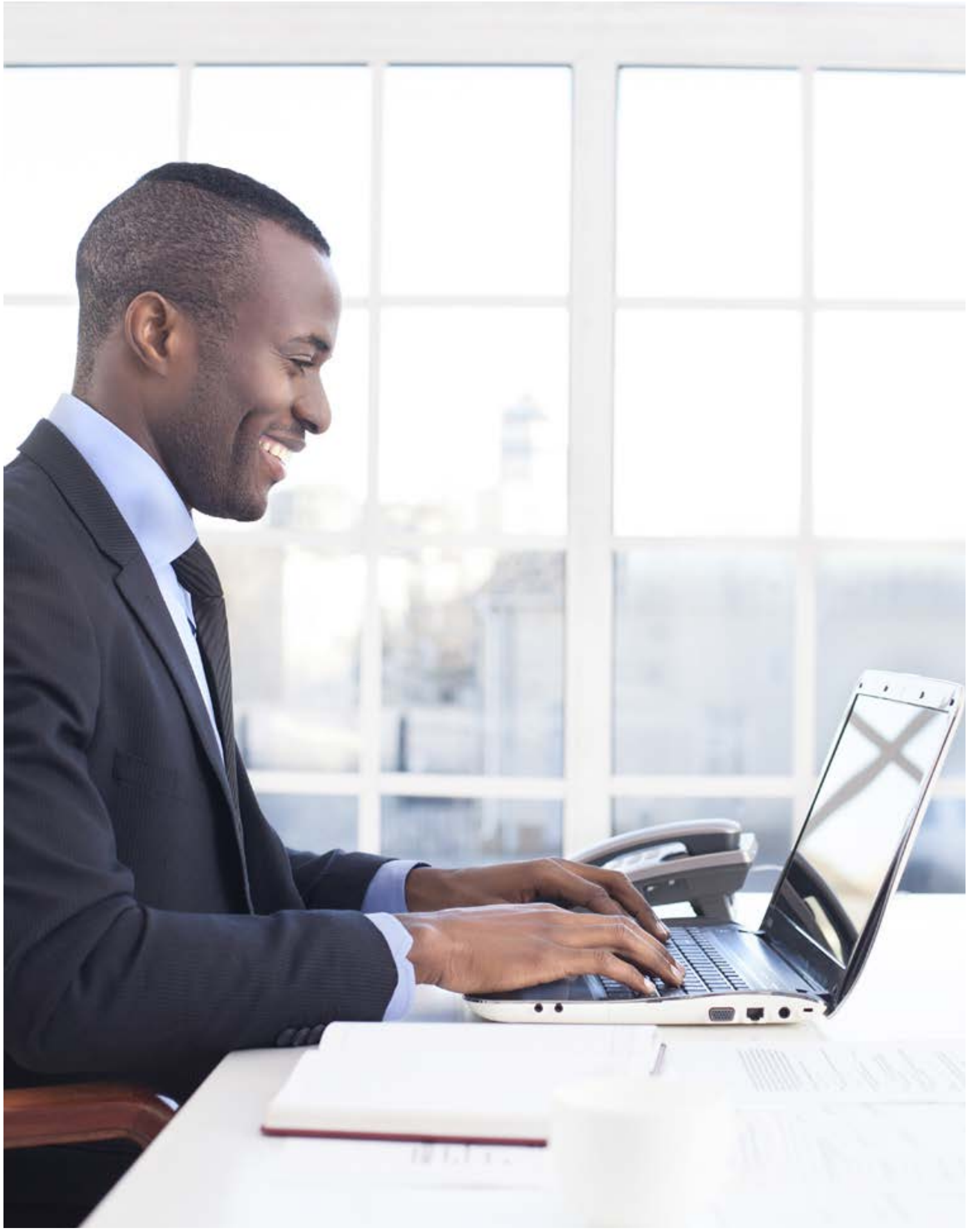
*U.S. Bank and SinglePoint are registered trademarks of U.S. Bank National Association.

An ever-vigilant attitude is needed to detect and prevent cybercriminal activity when you're using the internet and accessing web-based systems. Early detection and quick action is important to minimize any potential impact. At U.S. Bank, we ask our online system users to be vigilant and to let us know if they discover any malicious activity.

For more information about online security best practices, or if you observe suspicious activity while using a U.S. Bank online system, please contact your U.S. Bank relationship manager or commercial customer service team.



Middle market thought leader podcast features U.S. Bank CISO

Recently, Jason Witty, U.S. Bank Chief Information Security Officer (CISO), met with Jack Sweeney of Middle Market Executive for a special edition podcast titled "Inside the Cyber Threat: Why It's Time to Protect Your Middle Market Business." The interview sheds light on trends and motives in cybercrime and provides some best practices for securing against it and reacting to it.

Witty explains that the internet, through its ability to connect people all over the world, is like a bad neighborhood. Unlike the physical world, there's no concept of distance to separate countries, companies and individuals from the "bad guys." They're literally milliseconds away and their motivations for cybercrime are constantly changing and evolving. "That's why," Witty says, "preventive, detective, responsive and recovery-type security technologies are necessary."

Among other measures, information sharing provides a better understanding of the threat landscape. It helps governments develop applicable laws and regulations, and companies tailor prevention mechanisms and controls.

In addition, it's becoming increasingly important to take a layered approach to security. Witty states, "In information security, you can't just do one thing." He recommends that companies follow a security framework. For example, the National Institute of Standards and Technology (NIST) cybersecurity framework offers a simple, yet robust, approach for analyzing threats, assessing gaps and developing a go-forward strategy.

Witty also warns listeners of two common threats facing companies today. The first is business email compromise. It involves an intricate scam where criminals research individuals in an organization (often through social media sites and social engineering) and impersonate them through email. A common variant of the scam occurs when the criminals draft an email from a high-level executive, like the CEO, and request an immediate transfer of funds for an important, "hush-hush" deal that was just made. Typically, the scam is successful when the transfer is made without performing a call-back to confirm the origin and authenticity of the email. Witty explains that a good defense against business email compromise starts with employee education.

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The other common threat facing companies, and rising in occurrence, is ransomware. This scheme involves malware that, when deployed, encrypts important data and files in the organization. The bad guys then hold the data "at ransom," requesting payment before unlocking the data. Witty says that in addition to employee education, good backup and recovery controls will help defend against ransomware.

The full podcast is available on middlemarketexecutives.com (middlemarketexecutive.com/data-security-jason-witty-usbank/).