

THE NEW TECHNOLOGY IMPERATIVE

DEFINING OPERATIONAL EXCELLENCE FOR 21st CENTURY TECH LEADERS



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fortitude | noun | for * ti * tude | \ för-te-tüd , -tyüd \

COURAGE. STRENGTH. STAMINA.

**Does your company have
the fortitude for the future?**



A LETTER FROM THOMSON REUTERS TECH PRACTICE LEAD

DO YOU HAVE FORTITUDE?

We live in an age of disruptive innovation—a technology revolution that is moving faster than we can comprehend. It is transforming industries, work places and human behavior.

The reality is that technological innovation will only continue to evolve, expand and enhance (or disrupt) the world as we know it. Initiatives such as artificial intelligence, the Internet of Things, blockchain and distributed ledgers, quantum computing, and all that we're on the cusp of experiencing are making their mark on the economy, businesses and each of us.

Satya Nadella, CEO of Microsoft, recently joined Reuters Editor-at-Large Sir Harold Evans for a candid discussion about technology today. During the interview he underscored the economic imperative for the technological revolution we're experiencing. "We need economic growth, and economic growth needs new technology and technology breakthrough. ... that's only going to happen if there's broad spread use of technology across the economy, not narrow consumption and narrow use of it."

Nadella compared the Technological Revolution to the Industrial Revolution saying, "When something gets invented in one part of the world, you should get it into your country as fast as you can because that way you're not being left behind ... You've got to be able to have your countries start

using it to amplify your comparative advantage in a world where everything is digital today."

There's no turning back, nor should there be.

The pace of change is further complicated by the fact that this new technological domain is unprecedented and requires, in many cases, new regulations and approaches to which current models and doctrines don't apply.

Take information security, for example. I need only say words like "Equifax," "Petya" or "Fake News" and you immediately understand what's at stake. Data security, privacy, trust ... these are critical business challenges that didn't exist in the same way a decade or two ago. And, the stakes are exceedingly high. CEOs are losing their jobs, eg Richard Smith of Equifax. Companies are paying ransom, eg Cryptowall 3 attack and \$325 million paid in ransom. And corporate reputations are being tarnished, eg Wells Fargo.

A fundamental question faces the organizations leading us into and through these new technological frontiers: how do you run a tech company at warp pace and still stay aware of and compliant with the dizzying number of jurisdictional regulations, legal requirements, tax rules and such around the world?

How do you have the fortitude for longevity and success?

You'll find answers to these questions in this paper.

In today's complex business environment, it's imperative that you, the leaders of the tech companies blazing these new trails, have the right infrastructure, operations and technology in place to ensure your compliance, longevity and ultimate success.

As you lead the world through the Technological Revolution, we're here to lead you through and to Business and Operational Success.

Here's to your fortitude!

Alex Paladino

*Global Managing Director
Technology Practice Group
Thomson Reuters*

RISK FORTITUDE

“Technology today is integral to almost all aspects of our lives and most of the time it’s a force for good. And yet the potential adverse consequences are spreading faster and cutting deeper ... threats to security, threats to privacy, fake news, and social media that becomes anti-social.”

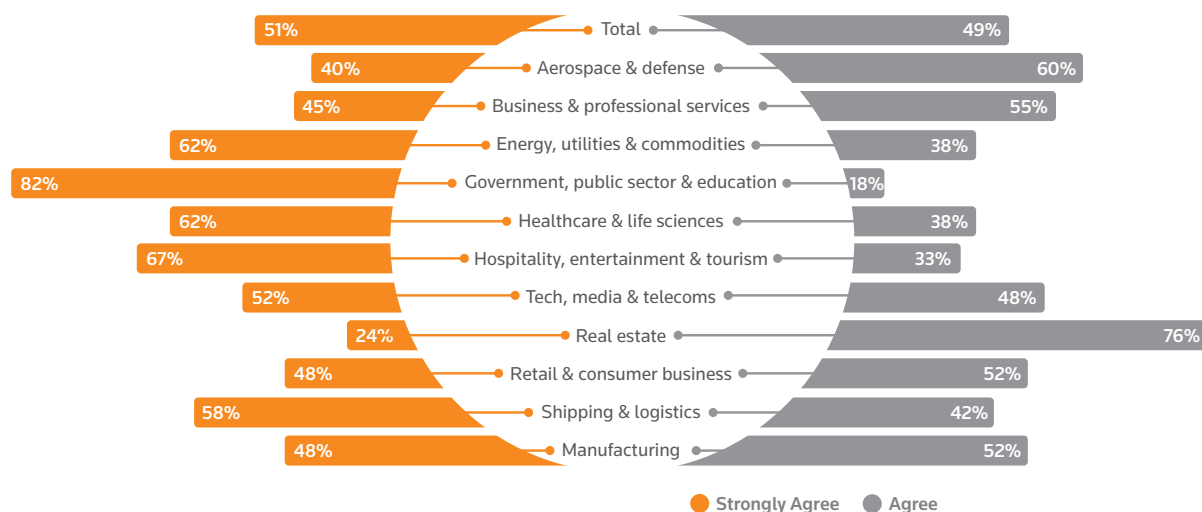
Tim Cook
CEO, Apple
2017 MIT Commencement Speech

Opportunity and risk—they’re opposite sides of the same coin.

The opportunity that comes with technology also brings notable risk. There is risk related to the improper use of the technology; the risk of data breaches; the risk of non-compliance with every-changing regulations; the risk of fraudulent activity; and then other risks related to a global tangled supply web or extensive partner networks.

Bribery, money laundering, cybercrime, trafficking ... these are just a few of the perils that can have a sweeping effect on the users of technology, leaders of technology companies and society overall. Technology becomes both a facilitator of these perils, as well as a means to mitigating them.

A recent Thomson Reuters survey of over 200 technology industry leaders on risk management within their

Figure 1: Outlook for the Future—Will your organization be stronger in 2025 than it was in 2015?

Source: Thomson Reuters 2016 Risk Management Survey

organizations showed that progress is being made, however there is room for improvement in building awareness for certain areas of risk that are oftentimes overlooked.

Interestingly, 48 percent of the respondents said their organizations conduct due diligence on anywhere from 0 to 60 percent of their supply chains while also acknowledging that some of the top outcomes from noncompliance are damage to the corporation's reputation, regulatory fines and decreased revenues.

The respondents were most familiar with bribery and corruption, counterfeit goods and anti-competitive practices, but were much less familiar with the risks associated with problematic vendor M&A, epidemics/pandemics, natural disasters and geopolitical matters.

Tech risk leaders are most often screening their suppliers, distributors and any other third party for things such as financial crimes, bribery and corruption and country risks, while much less frequently screening for slavery and forced labor, conflict minerals, environmental crimes and politically exposed persons, all of which are extremely serious threats to their companies. The single biggest reason tech execs cited for not identifying risk in their supply chain is the lack of data available.

Looking toward the future, tech leaders are moderately optimistic about the coming years, with 52 percent of respondents saying they believe their organization will be stronger and more profitable in 2025 than they were in 2015 as shown in Figure 1.

Tech Exec Views on Third Party Risk Management

Statement	Percentage of respondents who agree
My organization or a peer organization has had an enforcement action against it related to third party risk	81%
Third party relationships have allowed our company to be more flexible and competitive	78%
The amount of regulatory information published by regulators will increase over the next 12 months	71%
The current economic climate is encouraging organizations to take risks with regards to regulations in order to win new business	69%
Third party relationship decisions often overlook key risks	69%
We know where risks may materialize, but struggle to employ processes to detect them	67%
We only conduct due diligence on our tier 1 third party relationships	67%
Winning new business is a priority and as a consequence we might breach regulations	66%
We do not know the extent third parties are outsourcing our work	62%
There is a perception that we're unlikely to be prosecuted if we did breach regulations	61%



THE LURE OF THE DIGITAL MARKETPLACE

It shouldn't come as a surprise that the digital marketplace is an arena ripe for all types of nefarious activity. Electronic payments are a cash cow. According to one report, worldwide e-commerce retail purchases reached nearly \$2 trillion USD at the end of 2016, and are projected to double to \$4 trillion USD by 2020¹.

Companies like Amazon and eBay provide tremendous opportunity to consumers and to the economy overall, yet they can also become a breeding ground for risk. Take the example of eBay and PayPal, where Islamic State (self-proclaimed) leaders used an account on eBay, under the pretense of selling computers and printers, to funnel money to the U.S. via PayPal for intended terrorist purposes².

With proof of such activity happening over digital platforms, laundering is garnering more legal attention, beyond what has heretofore been monitored and regulated as part of Anti-Money Laundering policies. However we're still a long way from eliminating it.

CUSTOMER RISK

Another category of risk is related to customers and suppliers. In the digital age when anyone with access to a computer has the potential to be a customer, it can put companies at risk. KYC or "knowing your customer" is imperative.

Take for example Facebook. CEO Mark Zuckerberg was in the spotlight regarding his platform's selling of digital ads to Russian companies suspected of meddling in the U.S. 2016

presidential election.³ He's ultimately decided to turn over the data to the U.S. government, but it is a very ambiguous and contentious area for tech leaders.

Then there are instances such as with China's ZTE Corp., which was levied a fine of \$1.192 billion by the U.S. Department of Treasury for the telecom giant's unauthorized sale of American electronics and shipments of microprocessors, servers and routers to the sanctioned nations of Iran and North Korea.

It is clear that the risk is greatest for those organizations at the forefront of the tech revolution. Facebook, eBay, PayPal ... these are household names that are creating our 21st century reality. They're also the companies in the crosshairs of privacy and pragmatism.

SUPPLIER RISK

Equally important to KYC is KYS or "knowing your supplier."

Apple's supplier, Foxconn Technology Group, was the cause of global negative publicity for the tech giant when, in 2016, Foxconn was accused of harsh work practices for thousands of Chinese workers it hired to assemble iPhones, which are believed to have led to the death of some employees.⁴

Child labor reports are another serious reputational threat for tech companies, as well as being a humanitarian threat for the world. Numerous tech organizations have reaped negative publicity, such as in the cases highlighted in the Democratic Republic of Congo, where children are reportedly mining cobalt for use in the batteries that operate smartphones.⁵

BRIBERY AND CORRUPTION

As if these examples aren't enough, suffice it to say the list goes on.

In the realm of bribery and corruption, there are a number of examples to pull from. For instance, one tech company was fined nearly \$4 million USD when one of its vice presidents was found guilty of capitalizing on the company's faulty internal controls by creating a slush fund from which he paid bribes to senior Panamanian officials in order to win business in that country.⁶

Reputational risk. Price risk. Investor risk. Humanitarian risk.

These are rampant in today's business environment—the opposite side of the opportunity coin.

The single biggest reason tech execs cited for not identifying risk in their supply chain is the lack of data available.

2016 Thomson Reuters Risk Management Survey



1 <https://www.emarketer.com/Article/Worldwide-Retail-Ecommerce-Sales-Will-Reach-1915-Trillion-This-Year/1014369>

2 <https://www.wsj.com/articles/fbi-says-isis-used-ebay-to-send-terror-cash-to-u-s-1502410868>

3 https://www.washingtonpost.com/business/technology/facebook-to-turn-over-thousands-of-russian-ads-to-congress-reversing-decision/2017/09/21/9790b242-9f00-11e7-9083-fb8dd6804c2_story.html?utm_term=.08c3e483a5e2

4 <https://www.forbes.com/sites/bensin/2016/08/22/the-real-cost-of-the-iphone-7-more-foxconn-worker-deaths/#789735a05560>

5 <http://www.businessinsider.com/apple-cobalt-mine-child-labor-2017-5>

6 <http://www.fcpablog.com/blog/2016/2/1/sap-settles-panama-bribes-case-with-sec-for-39-million.html>

MITIGATING RISK

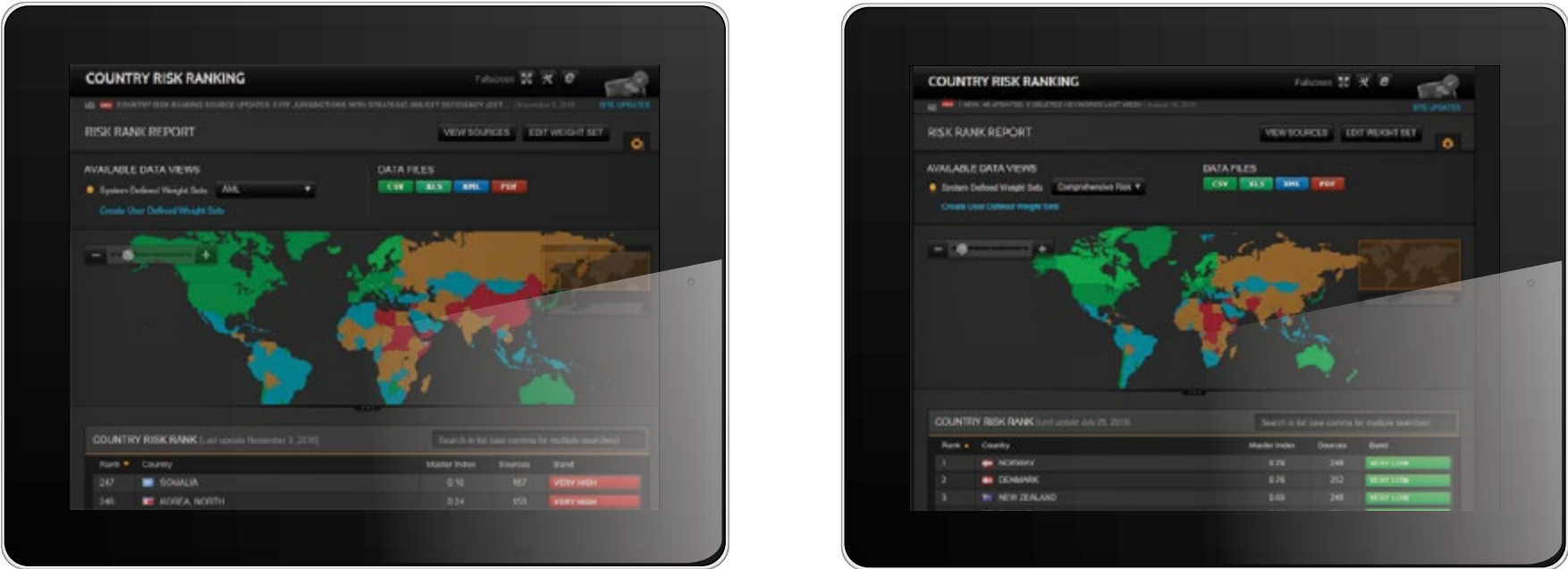
The network of companies involved in bringing today’s products and solutions to life is wide and deep. Global trade and the decline of isolationism are connecting countries, companies and individuals that previously were unaware of each others’ existence. This creates the potential for unscrupulous parties to infiltrate the sourcing, manufacture and delivery of products we use in modern life.

In a recent Thomson Reuters survey of supply chain professionals, nearly half of the respondents said their companies lost revenue—more than \$200 billion collectively—due to poor supply chain management⁷.

Fortunately, there is intense focus on mitigating supplier and supply chain risks faced by technology leaders. There are risk intelligence solutions that enable tech companies to know the parties with whom they’re doing business and the countries of greatest risk, before transmitting money, as shown in Figure 2. There are tools that track and monitor global regulations to ensure your company is compliance and technology that identifies supply shipments and potential risks in moving goods from point A to B, as shown in Figure 3. These Interactive Maps enable you to analyze your supply chain, see the broad scope of factors affecting supply and demand, production processes and transportation networks.

The onus of responsibility doesn’t need to sit with the tech company alone. Talk to your partners and vendors to better understand ways to anticipate, detect, monitor, report on, and ultimately avoid risk, thereby buildin your Risk fortitude. Technology platforms, trusted intelligence and human expertise including Thomson Reuters Eikon, World-Check, Enhanced Due Diligence and Country Risk Ranking are just a few of the solutions helping to mitigate the risk technology companies face.

Figure 2: Determining the Countries that Pose the Greatest Risk

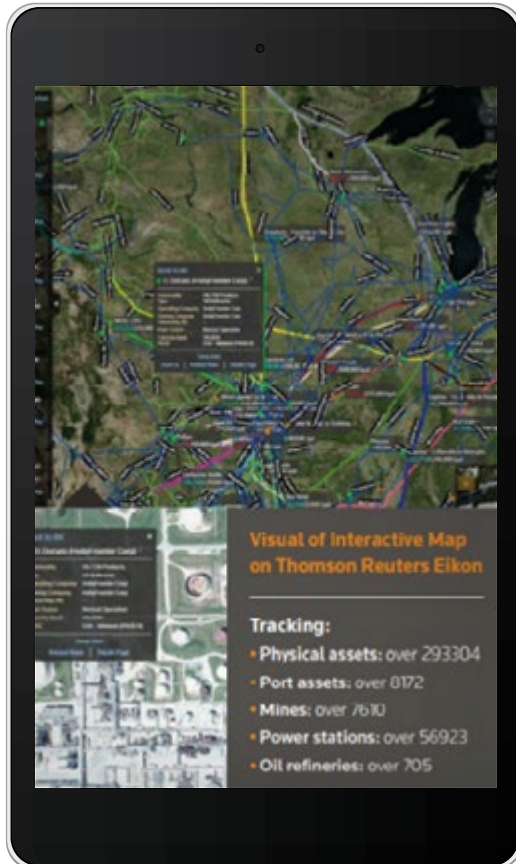


Source: Thomson Reuters Country Risk Ranking

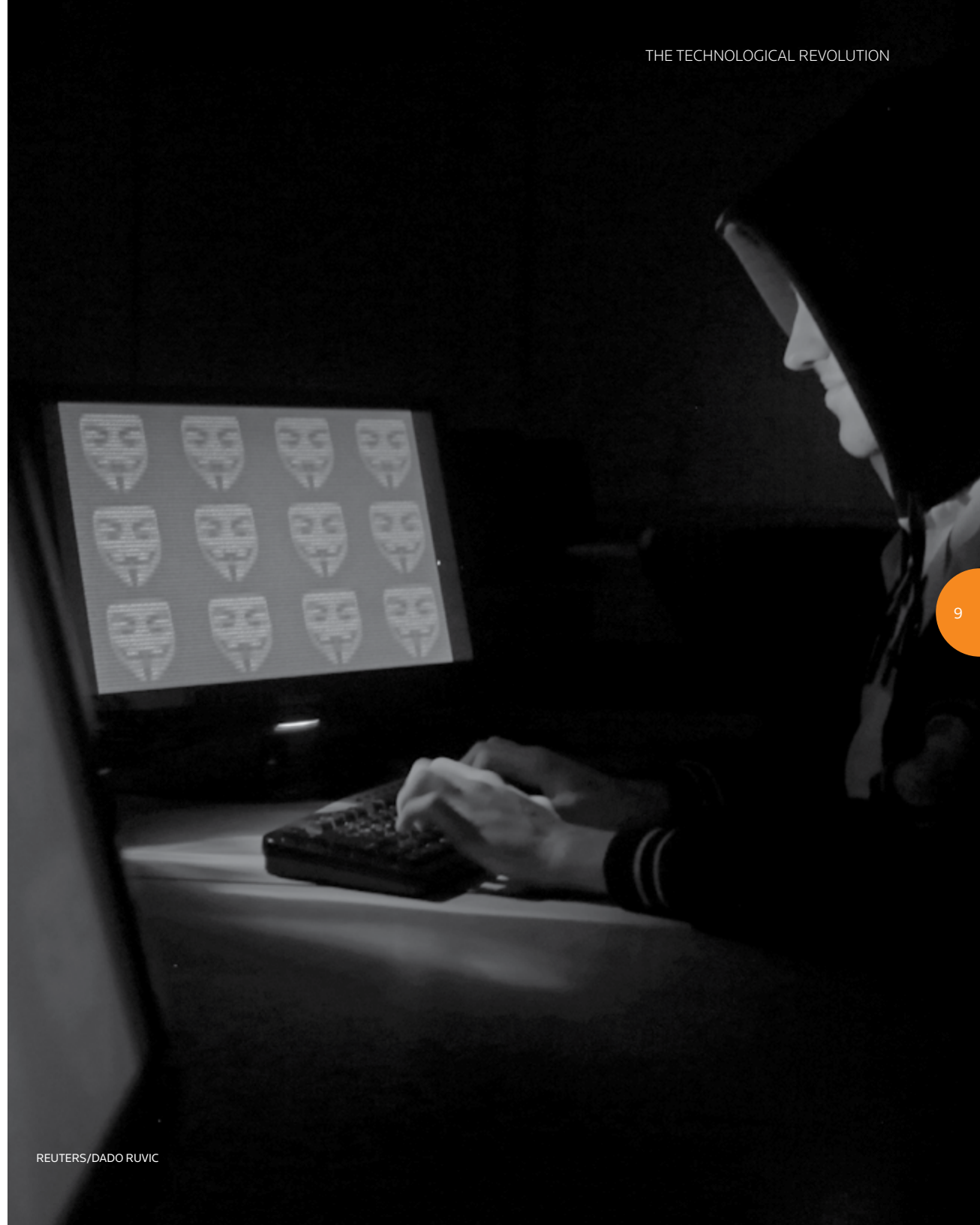
7 <https://blogs.thomsonreuters.com/financial-risk/risk-management-compliance/has-your-supply-chain-become-a-tangled-supply-web/>

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Figure 3: Interactive Supply Chain Shipment Map



Source: Thomson Reuters Eikon



SECURITY & PRIVACY FORTITUDE

Data is the fuel that runs the tech industry. No one knows the importance of protecting it and enforcing its privacy better than tech company leaders. Yet, in a world where transparency is the new normal and being open is a business imperative, it's becoming more and more challenging to protect against security breaches, malware threats and cyberattacks.

EXAMPLES ABOUND

Equifax is one of the most recent examples of the plight of a company managing confidential client data. The credit-reporting company announced in September 2017 that it was the victim of a cyberattack that compromised the personal information of potentially 140 million Americans, including their names, addresses, social security numbers and dates of birth.

The breach has been the talk of the press and media, as well as a source of significant concern for the public. It called into question Equifax's security practices as well as when and whether it patched a previously identified security vulnerability.⁸ Immediate ramifications of the breach have included the resignation of the company's chairman and chief executive officer, as well as the formation of a special committee by the Board to address myriad issues anticipated to arise from the incident and ensure appropriate actions are taken.

The single biggest reason tech execs cited for not identifying risk in their supply chain is the lack of data available.

2016 Thomson Reuters Risk Management Survey

MALWARE AND RANSOMWARE

Malware or ransomware is an equally troubling security threat that poses significant risk and harm to a company's reputation and operations.

The recent Petya virus is one such example. It originated in Europe and infected a number of businesses in the Ukraine, as well as created a ripple effect around the world. Organizations such as the National Bank of Ukraine; Boryspil, Kiev's main international airport; and the country's nuclear power plant at Chernobyl were among the many businesses impacted.

Petya was out for ransom, plus some. Not only did it demand each infected user to pay \$300 in Bitcoin in order for their data to be returned, it also went after the hard drive of the computer, preventing it from loading its operating system.

Petya is just one of several global incidents. Earlier in 2017, the world was affected by an equally devastating virus: the WannaCry epidemic. This infected over 300,000 computers globally. And, there are other similarly infamous examples from prior years such as the Cryptowall 3 attack that generated more than \$325 million in ransom for its developers.

BUILDING FORTITUDE AGAINST RANSOMWARE

Ransomware is devastating because of the way it encrypts and exploits data and servers, holding sensitive information hostage. This is of great concern when it impacts an individual, and of even greater concern for corporations housing the data of millions of customers.

Vulnerabilities in company servers, as well as those related to human vulnerabilities, are the weak links ransomware seeks out and thrives on. The Petya virus was able to take hold and propagate because of a weak link in a widely used tax and accounting software in the Ukraine. Unfortunately for clients of that software, the provider didn't have the proper protective measures in place. Similarly, as of the time of writing this paper, it is believed that the Equifax breach was also a result of security vulnerabilities.

The good news (if you can call it that) is, these weak links can be protected against and there are definitive steps organizations can take to mitigate the potential of them becoming a ransomware or malware victim.

Part of the solution to addressing cyberrisks is to ensure that an organization's most critical business assets and processes are protected, in addition to solving for tech vulnerabilities. This involves having candid conversations with vendors and partners to ensure they understand your expectations.

⁸ Wall St. Journal, "Equifax Chief Quits Amid Hacking Crisis", AnnaMaria Andriotis, Emily Glazer, September 27, 2017, print edition

5-STEPS TO DATA SECURITY FORTITUDE

There are clear steps an organization can take to protect itself from cyberattacks.

- 1 Partner with the protected**
Make sure your partners and vendors apply the proper patches to mitigate the risks of malware. Ask the right questions up front to ensure they have protective measures in place. Does the vendor/partner have ISRM, Information Security and Risk Management, practices that utilize an information security management system to guide the implementation, operation and continuous improvement of policies, standards and practices applicable to IT operations?
- 2 Study their information security teams**
Knowing about the information security organization and structure at your partner/vendor company can make a big difference. Be sure to find answers to the following questions.
 - Does the company even have an information security group?
 - Where is it located and what hours of coverage does it provide?
 - What tools and processes does it have in place to protect against ransomware and cyberattacks?
- 3 Know their counter-cyberattack strategy**
Go beyond just asking if your partner has a cyberattack strategy, find out what it is.
 - How do they counter cyber threats?
 - What do they do to protect your company, data and your customer's information?
- 4 Determine their defense strategy**
There are several key elements to a ransomware defense strategy, including:
 - Application security
 - Two-factor authentication
 - Anti-phishing technologies
 - Employee-awareness training
 - Hardening of potential attack vectorsBe sure to understand the defense strategy of your partner organizations.
- 5 Find out how they harden their systems**
Hardening a system is another layer of insulation to protect against cyber threats. Familiarize yourself with the processes in place at your vendor companies to harden their systems.





TAX FORTITUDE

“Governments worldwide are implementing stricter compliance and reporting requirements for multinational corporations to combat ambiguity and increase global tax transparency. This evolution will create the need for software and services that provide global oversight, workflow and seamless interfacing with global accounting firms. Companies will need to adopt and embrace technology to enable tax compliance (sales and use tax administration, e-invoicing, e-reporting, property tax administration, etc.).”

Brian Peccarelli
President
Thomson Reuters Tax & Accounting

Roughly a decade ago, a single technology company ranked among the top 20 global companies by market capitalization—that list has now grown to nine, and accounts for 54 percent of the total market capitalization of the top 20. In an increasingly digitized world, and with the rise of new information technologies, the tech industry’s phenomenal growth over the past decade positions these companies for both opportunity and challenge when it comes to global tax reform.

Bold new global tax initiatives to combat perceived corporate tax avoidance present a fundamental change in compliance and reporting for multinationals. New compliance deadlines are on the horizon, and technology companies in particular need to be prepared to effectively and efficiently respond to an increasingly complex landscape.

CLOSING THE GAPS

The Organization for Economic Co-operation and Development’s (OECD) Base Erosion and Profit Shifting (BEPS) initiative seeks to close gaps in international taxation for companies that allegedly avoid taxation or reduce tax burden in their home country by moving operations or migrating intangibles to lower tax jurisdictions.

The BEPS Action of most recent and pressing impact to tax professionals has been Action 13, country-by-country reporting (CbCR). Companies with earnings over €750 million, or typically the local equivalent, have been required to submit reports to tax authorities since January 1, 2017.

More than ever before, doing business globally requires the collection and regular monitoring of tax rates and regulatory information from multiple jurisdictions.

All G20 and OECD countries, plus Denmark and Mexico, have agreed to implement CbCR in some form. More than ever before, doing business globally requires the collection and regular monitoring of tax rates and regulatory information from multiple jurisdictions. Penalties for non-compliance vary from country to country, with the possibility of criminal convictions in the Netherlands. Additionally, resulting tax adjustments could trigger restatements, affect the company’s future earnings and inflict reputational damage.

Tax authorities will begin exchanging the first country-by-country reports as early as 2018—creating unprecedented visibility into companies’ tax and operational footprints. There has never been such an ambitious, coordinated global effort to demonstrate multinational enterprises are in compliance with both the letter of the law as well as its intent, and to ensure that profits are tied to the creation of value. As a result, tax teams are working closely with their corporate departments (i.e., Finance, Risk and IT) to meet these new requirements.

Against this backdrop, the Thomson Reuters Global BEPS survey detailed six crucial questions that tax teams face:

1. Can we thoroughly map out all legal entities included in our company (including permanent establishments [PEs] and branches), as well as their tax residence?
2. How many full-time employees (FTEs) work in each jurisdiction, and what is the management structure for each legal entity in our group?
3. Can we quickly gather and map entity-level financial data for each country we operate in? And how do we report the financials?
4. Can we adequately describe our group's global business operations and transfer pricing policies in a master file available to all relevant country tax administrations?
5. Can we capture narrative and graphical information for each element of the local file contents, and can we easily and quickly upload content and attach relevant documents?
6. Do we have the resources or data needed to support the transfer pricing analysis for each type of related-party transaction?

"The efforts amount to a concerted campaign aimed at revamping how taxes are collected in the 28-nation bloc. They are part of an array of moves by officials in Europe to flex their regulatory muscles over the United States technology sector, including penalties for antitrust violations and investigations into mishandling of customer data."

James Kantor
New York Times

"What we need is a fundamental rethink of how to align taxable profits with real economic activity and value creation EU finance ministers from 10 countries, led by France, support a plan to tax tech groups on sales in countries where they do business. Other countries, such as India, have already implemented 'equalisation' levies on payments in excess of \$1,500 to foreign enterprises without permanent establishment in the country."

Rana Foroohar
Financial Times

Indeed, centralizing transfer-pricing data will enable tax departments to become centers of knowledge that benefit the whole organization, and senior management will be able to monitor transfer pricing shifts and make strategic decisions accordingly. BEPS Action 13 forces transfer pricing operations to be better organized so they can be used more efficiently. Ultimately, it is about more than just compliance. It is about better, more efficient trade operations.

EU SHARPENS FOCUS ON AMERICAN TECH TITANS

Officials in Europe have been particularly focused of late on American technology companies. For example, Italy's senate budget committee approved a proposal to introduce a 6 percent levy on digital sales expected to bring an extra €114 million per year into the Italian treasury when it takes effect in January 2019. The flat rate tax will apply to sales of digital services such as online advertising and is expected to primarily target multinationals like Google and Facebook. Italy is one of a number of countries pushing the European Union to reform how tech giants are taxed, arguing that companies should pay a percentage of the revenues they generate in European countries.

Under the current system, companies are taxed on profits based on the location of the organization's 'Permanent Establishment.' This means that companies have the

opportunity to book profits in countries with the most favorable tax rate and pay minimal taxes. While Spain, Germany and France are contemplating national legislation on the issue, Italy could be the first country to introduce such legislation after winning an agreement from Google for the latter to pay back taxes earlier this year.

The stakes are high: Europe's competition commissioner, Margrethe Vestager, said she would take Ireland to court over its failure to collect back tax bills from Apple and regulators ordered Luxembourg to collect some \$293 million in unpaid taxes from Amazon. Additionally, Estonia, which holds the European Union's rotating presidency, pledged to press ahead with finding solutions to more effectively tax the sector, saying traditional tax systems are struggling to adapt to companies whose business model and lack of brick-and-mortar infrastructure make it hard to identify where they make their profits.

Indeed, some technology companies (and multinational corporations more generally) are already investigating local selling structures that will provide more transparency to governments and policy makers who have called for greater visibility into the revenue associated with locally supported sales in their countries.

“Tax reform is needed to build a more competitive economy U.S. tech companies are facing aggressive tax policies around the globe and our tax policies here at home are hurting our ability to compete on an international playing field.”

Dean Garfield
CEO and Council President
Information Technology Industry Council

MEANWHILE, BACK IN THE U.S.

According to the Council on Foreign Relations, the U.S. has the highest statutory corporate tax rate in the world, at over 39 percent, including state and local taxes. Many analysts say the comparatively high U.S. rate, coupled with a complex array of tax subsidies and loopholes, is a doubly flawed system, overburdening businesses with compliance and planning costs while reducing federal revenues at a time of rising national debt. Others point out that the U.S. system, which taxes foreign profits of U.S. multinational corporations, places the country at a competitive disadvantage as compared to most of the industrialized world, which only taxes domestic corporate income.

The tech sector contributes over \$1 trillion to the U.S. economy and employs about 13 million people in the United

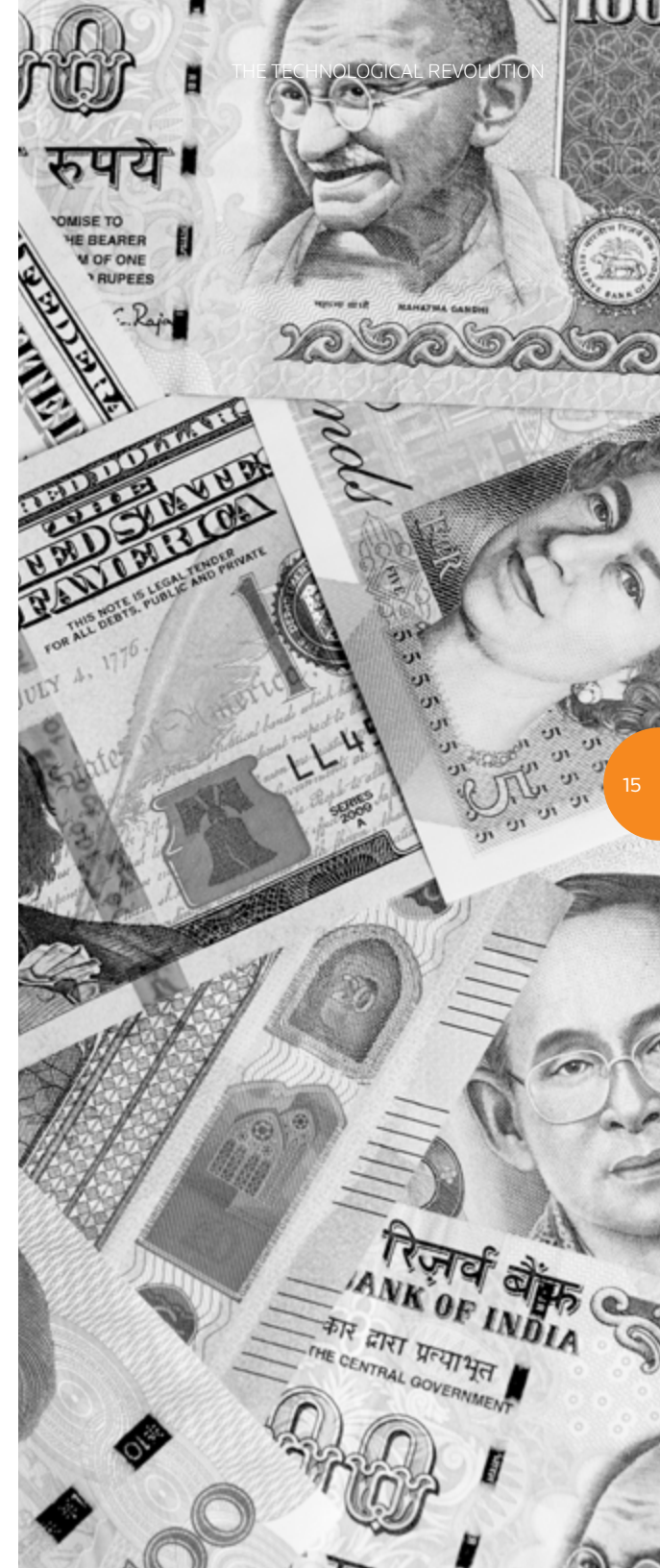
States. Technology occupations are now the country’s leading source of domestic wage growth. The industry views the U.S. tax code as outdated, uncompetitive, and in need of a major overhaul that includes a lower, competitive corporate tax rate, market-based international tax system, and robust incentives for innovation and research and development (R&D).

Tech companies have long complained about the 35 percent corporate tax that the current code requires on worldwide profits returned to the U.S. To reduce exposure, companies have left much of their profits in overseas subsidiaries. Indeed, the Big 5—Apple, Alphabet, Amazon, Facebook, and Microsoft—currently have a combined \$457 billion held in overseas subsidiaries. Apple alone holds more profits overseas than any other company, with Microsoft not far behind, and it is estimated that U.S. companies in general have \$2.8 trillion in profits in overseas affiliates.

Both the U.S. House and Senate bills contain language on the “repatriation” of corporate cash back to the U.S. Specifically, both bills propose that all the overseas cash be automatically repatriated and taxed at a low rate—this would be particularly significant for U.S. companies like Apple and Microsoft, which might prefer to bring profits home where they can put them put to work.

Monitoring, understanding and managing the significant changes in global taxation and the reform initiatives worldwide—as well as remaining agile in compliance and tax planning—will be critical to technology companies in building fortitude in the months ahead. As a world leader in understanding tax regulation, Thomson Reuters arms you with the information, insights, and solutions needed to simplify tax complexity and flourish in the evolving global tax environment.

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FINANCIAL FORTITUDE

As several global technology titans approach the once unimaginable mark of trillion dollar market capitalization, the sheer scale and complexity of running these companies is changing how finance and strategy professionals work. Our research shows few industries or executives have faced this type of consistent exponential growth.

According to Thomson Reuters latest S&P 500 Earnings Scorecard, the Technology sectors 3Q17 blended earnings and revenue growth rate stands at 24.2 percent and 10.5 percent, respectively. This stands in comparison to a 3Q17 blended earnings and revenue growth rate for the S&P 500 of 8.4 percent and 5.4 percent, respectively, significantly outperforming all other industries with the exception of Energy, which is making a recovery from previous drops in performance. These numbers place additional strains on the financial management function as technology giants have unprecedented cash flows to manage and unrelenting pressure to keep pace.

PLAYING OFFENSE AND DEFENSE

As technology firms transition from start-up to large multinational corporation, the stakes get higher. They need to understand and manage a much wider scope of activities from macroeconomic events and emerging market opportunities to risk, regulation and trade.

According to Thomson Reuters Technology Practice Managing Director Alex Paladino, "There is an urgent need for financial data, analytics and other solutions to help minimize risk and provide insight to CFOs, corporate treasurers and M&A professionals, enabling them to make critical strategic decisions that will have far reaching impact on the state of their business in both the short and long terms."

Corporations need access to financial data and insights to make more informed decisions around growth strategies and global expansion in often opaque markets, as well as

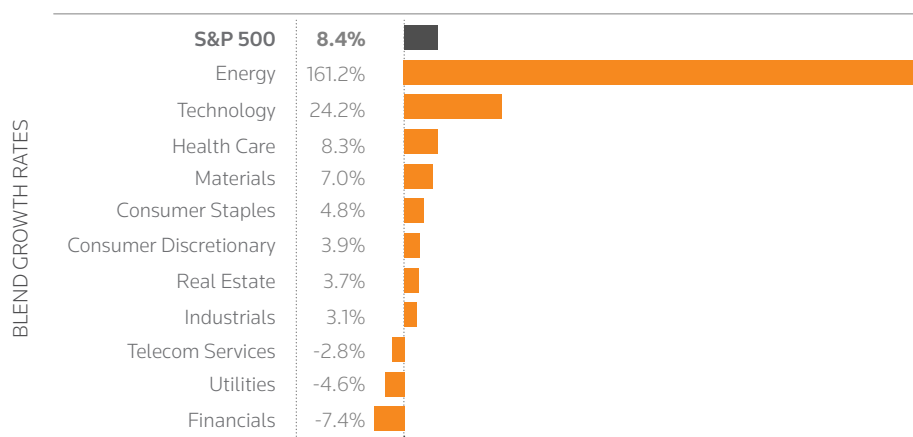
evaluate multiple acquisition options internally and build an independent view on acquisition target valuations. Corporate development, M&A and competitive/market intelligence functions need to assemble and disseminate content and insight from across the organization.

GROWING ROLE IN SCOPE AND IMPORTANCE

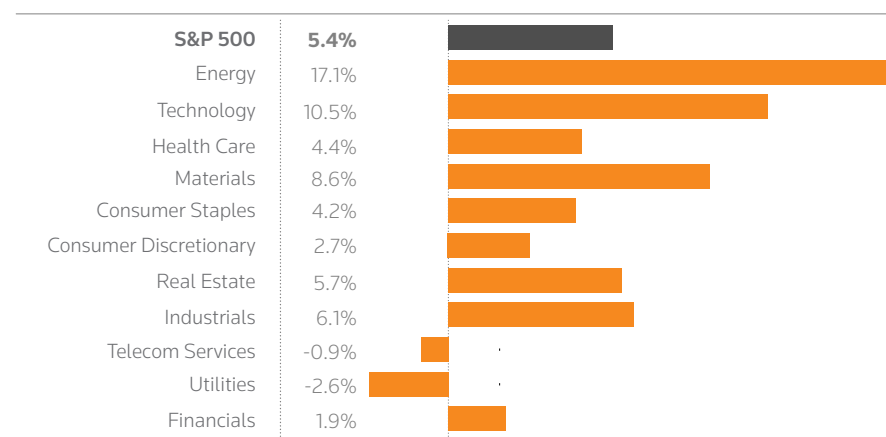
Indeed CFOs today have much more than finance on their plates. According to McKinsey, an average of five functions other than finance now report to the CFO. More than half of CFOs say their companies' risk, regulatory compliance, and M&A transactions and execution report directly to them, and 38 percent of CFOs are responsible for IT and in some cases CFOs also manage cybersecurity and digitization, suggesting just how diversified the list of demands on the CFO has become.

2017Q3 S&P 500 Earnings Dashboard

S&P 500 2017Q3 Earnings



S&P 500 2017Q3 Revenue



While new technologies have added to the evolution of the CFO's role, they also potentially make it easier for finance leaders to manage business complexities. Embracing and utilizing a wide range of tools can help CFOs benefit from big data and the digitization of finance processes; for example, software that automatically completes repeatable, standardized, or logical tasks, such as processing transactions or integrating data to derive business insights.

However, today's CFOs need more accurate and timelier data for analysis, reporting, budgeting and forecasting in order to become a partner to the broader business.

CFOs seek technology to incorporate controls and more risk management, but also need to consider other functions—like helping them achieve enterprise-level finance goals, according to a 2017 survey by The Hackett Group. These include:

- Formulate strategy with the business
- Support enterprise information and analytics needs
- Achieve and maintain a competitive enterprise cost structure
- Improve the effectiveness of company decision-making
- Manage enterprise risk

For CFOs, who are increasingly tasked as drivers and executors of global strategy, the challenge means having to constantly re-evaluate the business—strategic direction, competitive landscape, potential new business models, and the operational structures, processes, and approaches needed to support the enterprise.

According to a 2016 Oracle study of finance leaders, 52 percent of respondents said their role is now predominantly focused on advising the business on how it can achieve growth goals, and 56 percent said they're working with lines of business more closely than ever before. It's critical for financial leaders to collaborate with colleagues in other

departments, especially around operational imperatives. CFOs need to think about how to form cross-functional teams that link sales, distribution, marketing, finance, customer service and other critical areas together in very flexible and adaptable ways.

For established companies, getting to that level of collaboration takes more than new skill sets and business processes. That's why more and more companies are moving their finance functions to cloud applications, whose features are updated and augmented multiple times a year, with minimal disruption to the business. And while CFOs take a range of migration paths to cloud-based ERP systems, depending on business needs, the best-in-class, standardized functionality of those modern systems can force a rethinking of outdated financial processes, controls, roles and responsibilities.

"As these expectations grow without comparable increases in staffing, finance functions need to consider acquiring and implementing finance governance technology that can reduce errors, accelerate consolidation and closing activities, and improve access to documentation amid growing regulatory and competitive pressures."

Financial Executive Research Foundation

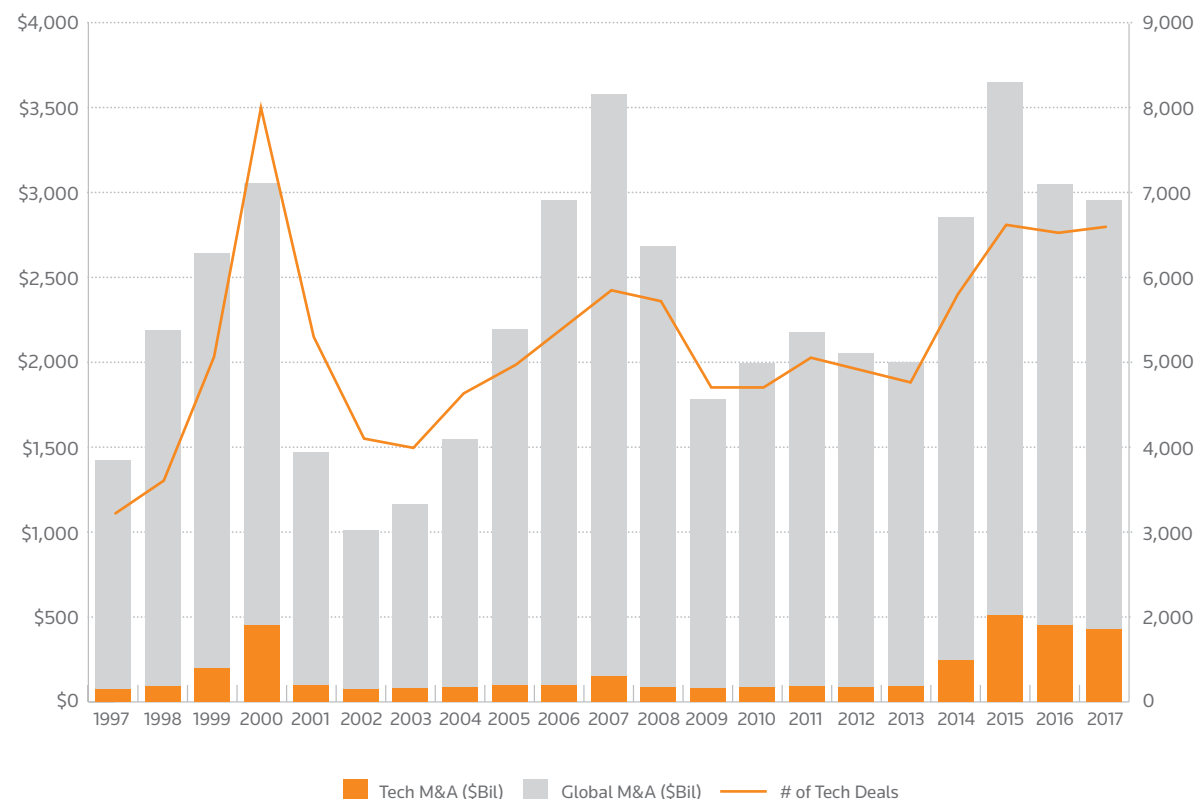
DEAL MAKING LANDSCAPE

Global mergers and acquisitions continued to flourish in 2017, as shown in Figure 1 with \$2.91 trillion in deals announced from 40,863 transactions. This represents a 4 percent decrease in deal value compared to year-to-date 2016 (\$3.04 trillion from 40,889 deals). Similarly, technology M&A activity reached \$393.6 billion from 6,090 announced deals, a 7 percent decrease in value compared to a year ago (\$422.8 billion from 6,007 deals), while number of year-to-date deals remained stable.

Despite the modest decline in both global and tech-related M&A activity, 2017 remained one of the strongest periods for deal making. Technology M&A was especially resilient with four mega deals over \$10 billion announced, led by Broadcom Ltd's \$115.4 billion bid for rival chipmaker Qualcomm, the largest technology deal ever; KK Pangea's \$17.9 billion acquisition of Toshiba Memory; Intel's \$15.0 billion offer to buy autonomous driving technologies company Mobileye; and Vantiv's \$11.1 billion purchase of payments rival Worldpay Group.

According to figure 2, following the financial crisis, the average tech valuation, based on deals with applicable data, rose from an average of 14.8 times EBITDA in 2009 to 27.3 times in 2017. This significant rise in premiums suggests a few things for investors and corporates. One is that earnings are becoming less important while growth metrics such as market share are increasingly valued. Another is the risk of disruption is becoming a real threat and the need to diversify into nascent tech is becoming vital to stay relevant and competitive. Similarly, catch-up and synergies, as in the case of Intel's Mobileye acquisition, high multiples can be justified when it outweighs the opportunity cost of developing it inhouse and falling behind competitors. Further, the sudden spike in multiples in the past few years and the market mentality of growth and market share over profit is reminiscent of the Dotcom bubble where investors paid exuberant multiples to capitalize on the next big opportunity.

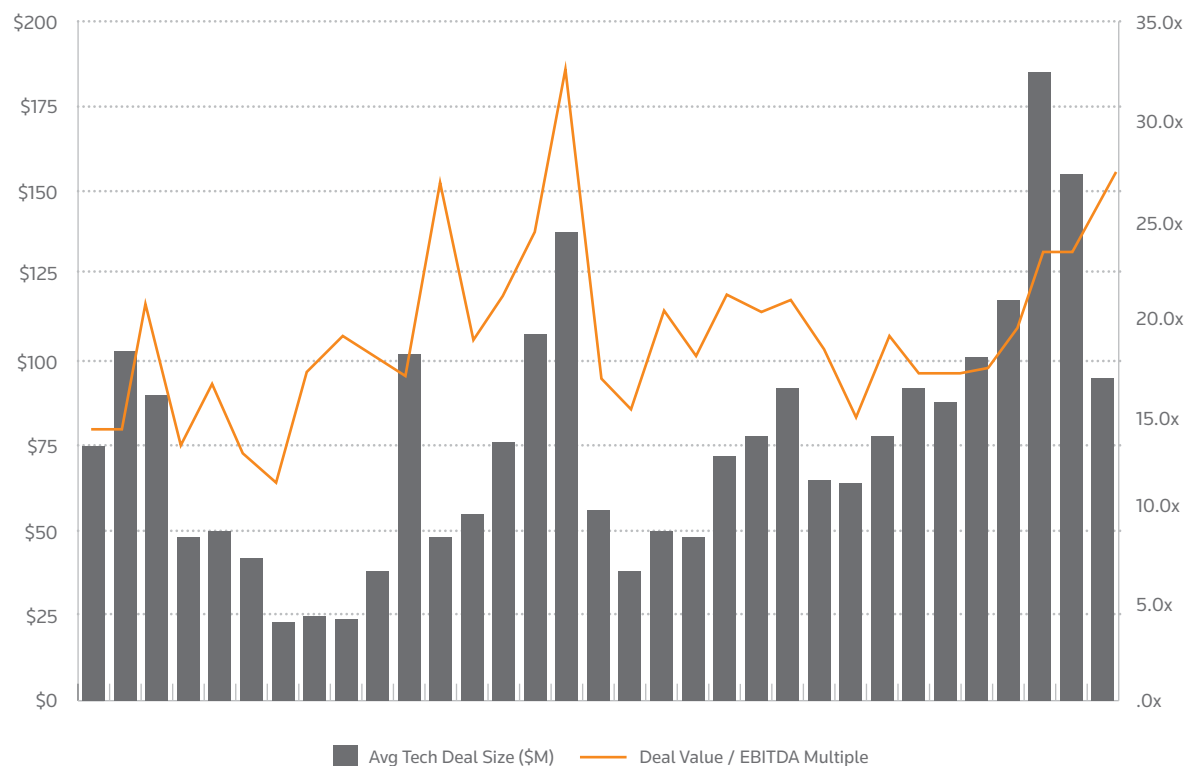
Figure 1: Year-to-Date Worldwide and Technology M&A Activity



Source: Thomson Reuters Deals Intelligence; Data as of November 13, 2017

Thomson Reuters Technology Practice Market Development Lead Rob Rynd notes, "One of the most aggressive buyers of technology firms outside of the industry itself has been the Financial Services sector. This is in part due to the explosion of possibilities with the two industries coming together, (i.e. FinTech to better serve both the B2C and B2B marketplaces). Additionally, the traditional banks and financial firms realize that significant investments in technology can pay off both from a cost savings perspective, as well as have the potential for bigger innovation pay-offs, particularly in areas like cloud computing, artificial intelligence, big data analytics and digitization."

Figure 2: YTD Avg. Tech Deal Value/EBITDA Multiples, Exc. Companies with Negative EBITDA and No Financials



Source: Thomson Reuters Deals Intelligence; Data as of November 13, 2017

“To achieve financial fortitude in the current environment, technology firms need best-in-class tools to serve their goals of efficiency and growth, optimize long-term funding strategies and reduce the costs of financing, while mitigating currency risk and maximizing execution quality. They also are managing credit and counter-party risk and a host of other mission-critical activities for their multinational enterprises.”

Jill Warner

Global Business Director

Technology Practice Group, Thomson Reuters

THE HUNT FOR NEW OPPORTUNITIES AND COMPETITIVE ADVANTAGE

CFOs need to identify new external and internal opportunities and thus contribute to the fulfillment of the business strategy. According to KPMG’s Global CEO Outlook, supporting growth is a top priority for the CEOs in the next three years and they rely on CFOs to help them to drive the growth strategy from mergers and acquisitions, to geographic expansion and organic growth. Additionally, 61% of the world’s leading enterprises see regulation as an opportunity to derive competitive advantage and 51 percent as an opportunity to utilize data analytics. CEOs therefore do not rely on CFOs only to ensure that the business adapts to changing regulations but also to get as much value for the business as possible in the process.

With passage of major U.S. corporate tax reform there is a potential tidal wave of cash sitting overseas that many of the tech titans could flow back into the U.S. CFOs are working across their strategy, tax and treasury/finance departments to determine how best to put that money back to work for their shareholders. Stock buybacks or dividend increases, along with M&A or R&D expansion are some of the critical decisions they will have to make in the coming months.

Thomson Reuters Rob Rynd adds, “Another growing trend for many tech firms is to further build up their corporate venture capital arms. Many feel that there is a longer-term strategic payoff to building out this capability in-house, allowing tech firms to get closer to ‘under-the-radar’ innovation—and a leg up on the competition if they can more quickly identify the next technology disruptor.” Additionally he notes that “companies are staying private longer, which means there is very limited public information that needs to be disclosed, making it more difficult to access and size up future rivals. VC is a way for more established technology firms to help fund innovation, develop relationships at an earlier stage and potentially get critical insight much sooner.”



LEGAL FORTITUDE

“We need to change the predominant traditional perception of the in-house legal department away from being seen as a reactive, risk-averse function whose sole purpose is to guard legality—the proverbial office of “no”—into something else entirely.”⁹

Liquid Legal: Transforming Legal into a Business Savvy, Information Enabled and Performance Driven Industry (Springer, 2017)

Many tech companies are still in the “adolescent” stage of their existence. Google, Facebook and Amazon are examples of this. Google, for instance, just celebrated its 19th birthday on September 27, 2017. Compared to stalwart bellwethers with more than a century of continuous operations under their belts, these technology organizations are, comparatively, still quite young.

COMPETITIVE ADVANTAGE

In many ways their youthful perspective is a competitive advantage. They are products of the Technological Revolution, not the Industrial one. They utilize cutting-edge technologies because they are the ones creating them. They are the embodiment of being open and of partnership, as compared to centurions that evolved in an era of closed-ness and protectionism.

Yet despite the benefits and great success many of these organizations are reaping, in some areas they still lack the infrastructure and fortitude built on years of experience and knowledge.

Tom Kim, managing director of Thomson Reuters China, provided a view into this during an interview with Alex Paladino, managing director of the Thomson Reuters Technology Practice Group.

“A tech company that really hits its stride can grow so quickly, so fast, that the size of the operation is running ahead of the infrastructure, the controls and the programs it has in place. This makes risk and compliance increasingly important to tech companies,” said Kim. “China is a great example of a place where tech companies are seeing extraordinary growth. They could be growing across even more countries and entering other lines of business, but they need the compliance, tools and risk management solutions to help them deal with the challenges they have ahead. They’re asking us for this almost daily in China.”

INTERSECTION OF LEGAL AND RISK

Legal and Risk have a strong interlock. Not only are they often affiliated in corporations from an organizational standpoint, with many corporate compliance officers reporting to the general counsel (GC), they also serve similar corporate needs. In fact, Thomson Reuters research shows that “Advisory & Risk” is now a focal point for in-house counsel, in addition to the more traditional areas of practicing law and operational management.

The Legal-Risk intersection is where challenges related to physical security, digital identity and digital payments are often handled. Legal teams are expected to increase their knowledge in new and rapidly evolving areas of the digital realm. Yet understanding legal requirements and compliance regulations, when digital-payment volume has skyrocketed to hundreds of billions of transactions annually, is difficult.¹⁰

The digital-payment arena brings with it the risk of fraud for the tech company and its customers, as well as the potential for nefarious activity to take place on the digital platforms. The aim of the in-house counsel team is to ensure the corporation is well prepared to manage the risk affiliated with burgeoning areas of tech and comply with new regulations.

⁹ <https://blogs.thomsonreuters.com/answeron/liquid-legal/>

¹⁰ World Payments Report 2017, Capgemini and BNP

“A tech company that really hits its stride can grow so quickly, so fast, that the size of the operation is running ahead of the infrastructure, the controls and the programs it has in place. This makes risk and compliance increasingly important to tech companies.”

Tom Kim

Managing Director
Thomson Reuters China

OTHER TECH COMPANY LITIGATION

Tech companies grapple with many types of risk and litigation. Figure 4 shows the percent of in-house counsel specifically within tech companies who cite the importance of various legal areas to their operations. On a scale of 1 to 10, with 10 representing “extremely important,” 72 percent of the respondents state that “Data breaches and privacy” are very-to-extremely important for their department, followed by “Information privacy” (64 percent) and “Protection of intellectual property and related disputes” (54 percent). The area listed as of least importance is around “Whistleblower issues.”

Corporate counsel also report they are spending more time on contract, litigation and regulatory matters, as well as advising internal business clients. Also on the rise is the number of in-house legal respondents who report spending time on merger and acquisition work (up 37 percent over 2015) and intellectual property matters (up 36 percent over the prior period).¹¹

SHIFTING LEGAL SANDS

It wasn’t too long ago that in-house legal departments maintained multiple relationships with various outside counsel teams and depended on their law firms for a large percentage of work.

The industry, however, was hit hard in the aftermath of the 2008 financial crisis and many corporations had to sever some of those external relationships, bringing work that was previously done outside, in. Factors cited as contributing to the decrease are consolidation to contain costs (58 percent) and consolidation to improve efficiencies (52 percent).¹²

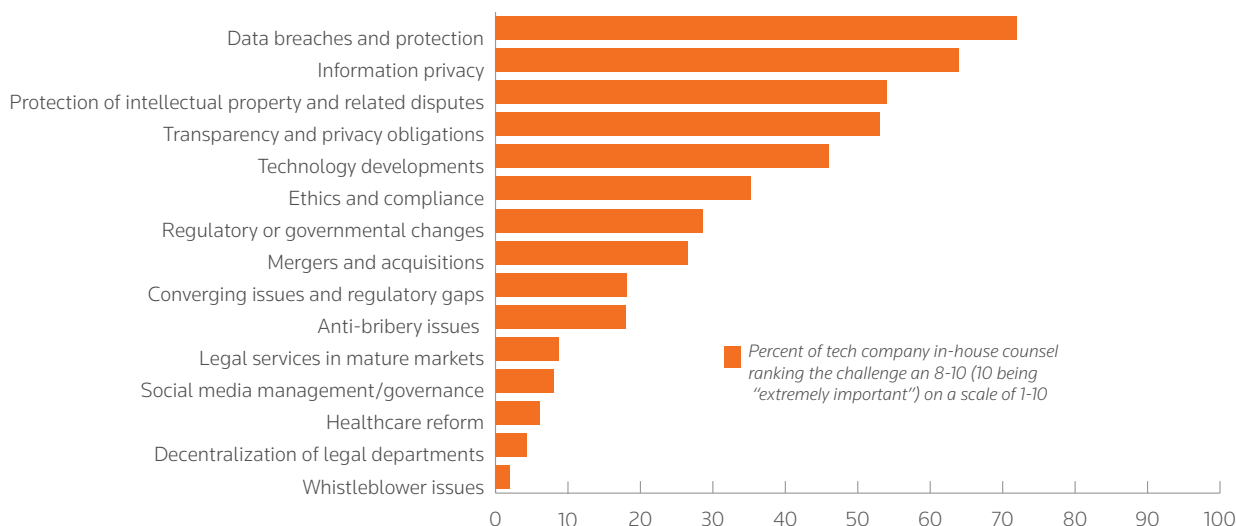
More than a quarter of the Thomson Reuters Legal Survey respondents reported decreasing their dependence on outside counsel over the prior year, with 60 percent indicating their use of outside counsel is limited to highly specialized issues or unfamiliar jurisdictions.

The area in which outside counsel is most engaged is around corporate work for mergers and acquisitions, with 77 percent of the respondents indicating they utilize out-of-house attorneys for this, as shown in Figure 5. This dependence on outside counsel is despite the respondents also starting to do more M&A work in-house, as noted above.

Process-driven and volume-intensive work, as well as day-to-day operational activity, are now much more often handled in house, while outside counsel are focused on the more strategic projects that require deep expertise.

LSPs (Legal Service Providers) have also emerged as another viable source for the more manual and repetitive tasks needed by corporate legal departments, thereby elevating in-house counsel to running the day-to-day operations and engaging in their own strategic initiatives. It’s projected that

Figure 4: Most important legal challenges facing in-house counsel of tech companies (2016)



Source: Thomson Reuters Corporate Counsel Efficiency Survey (2016)

¹¹ <http://static.legalsolutions.thomsonreuters.com/static/pdf/2016-Efficiency-Report.pdf>

¹² <http://static.legalsolutions.thomsonreuters.com/static/pdf/2016-Efficiency-Report.pdf>

Figure 5: Use of Outside Counsel for Legal Work

More than a quarter of the Thomson Reuters Legal Survey respondents reported decreasing their dependence on outside counsel over the prior year, with 60 percent indicating their use of outside counsel is limited to highly specialized issues or unfamiliar jurisdictions.

2016 Thomson Reuters Risk Management Survey

Source: Thomson Reuters Corporate Counsel Efficiency Survey (2016)

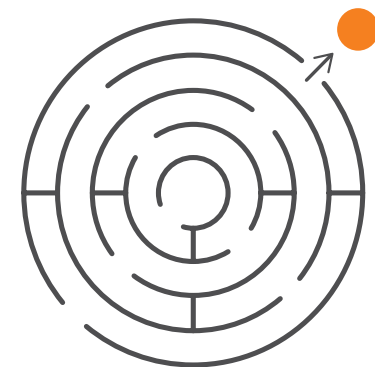
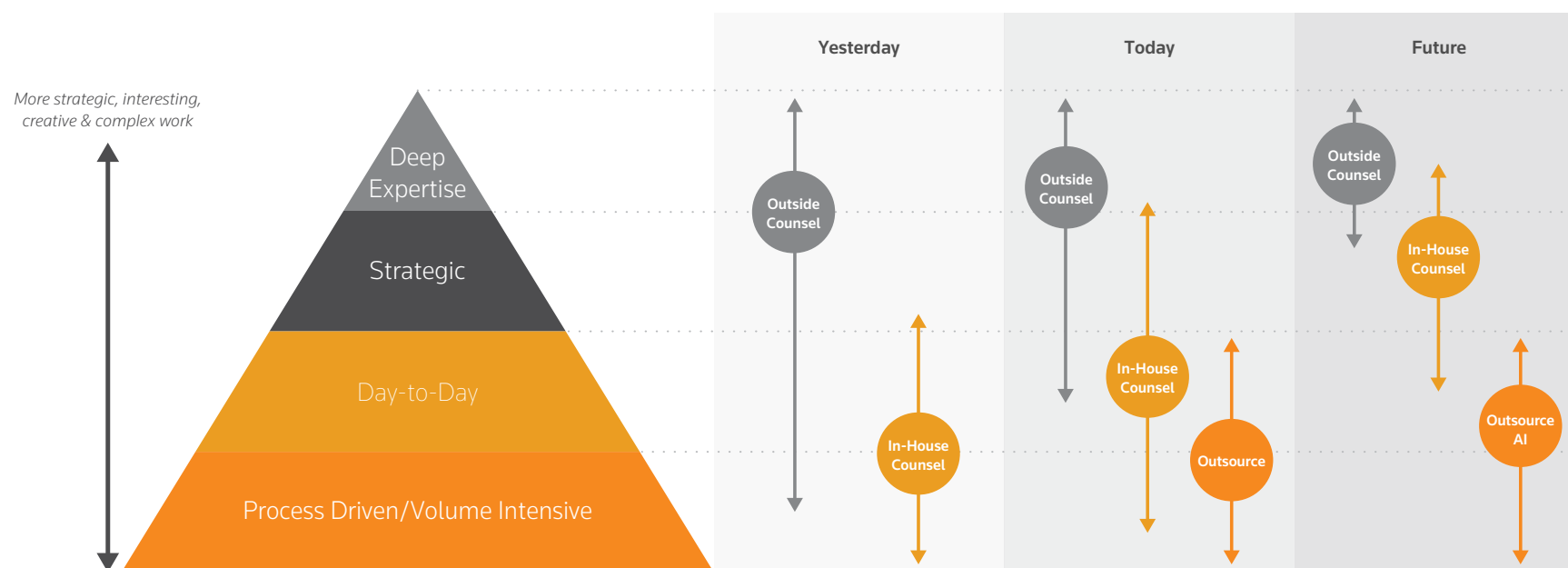


Figure 6: The Evolving Relationship of In-House Counsel, External Counsel and Legal Service Providers

Source: Thomson Reuters Corporate Counsel Efficiency Survey (2016)
AI = Artificial Intelligence

these focal areas will become even more pronounced and engrained with the respective groups, as shown in Figure 6, in the not-too-distant future.

Given the shift of legal operations to the in-house environment, tech companies now depend on their in-house counsel for more insight, actionable intelligence and advice. One way that this is materializing is through the use of Big Data within the corporation.

TECHNOLOGY ABOUNDS

In addition to the shifting roles of in and out-of-house counsel, technology has been playing an increasingly larger and more meaningful role in driving efficiencies for corporate legal professionals.

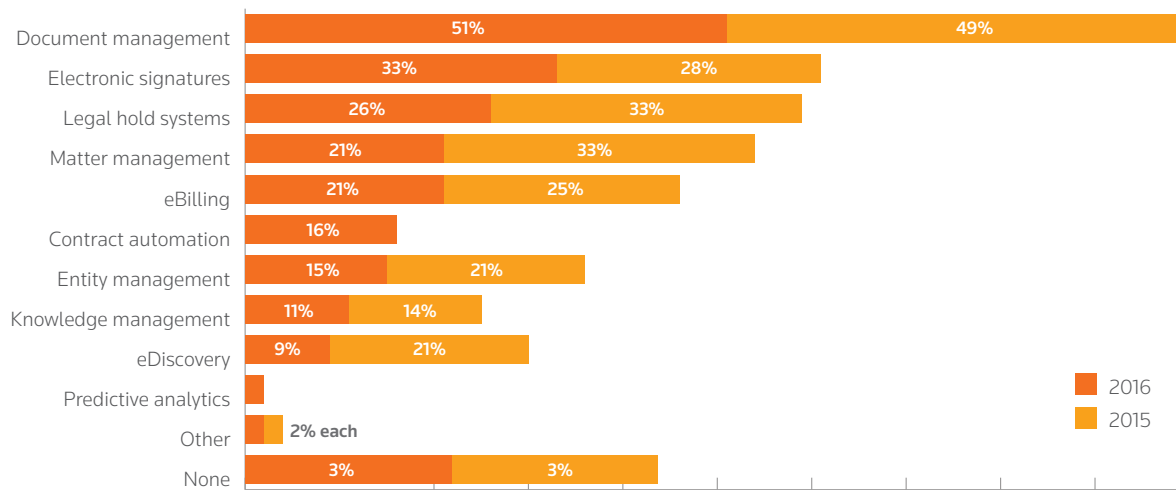
The types of technology in use in legal departments increased in 2016 over prior-year figures related to document management and electronic signatures, as well as the inception of technology for contract automation and predictive analytics, as shown in Figure 7. Even though some areas have decreased slightly over the previous 12 months, such as matter management, eBilling and eDiscovery, there is no disputing the increasingly important role technology plays for law firms.

Amidst all of these changing dynamics, there are still pockets of unmet needs. Take for example the area of regulatory compliance. Now a line-of-sight initiative for many GC, they have identified this as one of their main areas of concern.

The regulatory environment is complex, and continually morphing to address new threats and business risks.

In-house counsel have to maneuver tax classification enforcement, stricter anti-trust laws, emission and recycling restrictions related to disposing of tech products that reach the end of their life cycles, new and evolving data privacy laws, and anti-money-laundering enforcement.

Solutions for these challenges can be found in the data, systems and processes put in place by providers with regulatory-and-risk-management expertise. It is time consuming and difficult to track global regulations and their impact on a business when doing it alongside all the other responsibilities of running a company. That's why it is imperative for tech leaders to find a partner with experience in these aspects of legal risk mitigation, leveraging the time those organizations have already invested in tracking and maintaining regulations so they need only apply them within their organization.

Figure 7: Most important legal challenges facing in-house counsel of tech companies (2016)

Source: Thomson Reuters Corporate Counsel Efficiency Survey (2016)





CEO SATYA NADELLA ON LEADING MICROSOFT

"For tech success, you have to have individual brilliance but it's the team that matters, you learn that from every team sport and it's so important in business. The need to compete, not be intimidated."

Satya Nadella
CEO, Microsoft

What follows are excerpts from an interview Satya Nadella had with Reuters News, September 27, 2017

On changing the culture within Microsoft:

Nadella: I'm a consummate insider, I've grown up at Microsoft. I really hardly know anything outside of it. Everything I've learned even about partnership I've learned inside the company.

Just to put this in perspective—and most people may not recognize it—we built Microsoft Office and our Office applications, whether it's Word or Excel, for the Macintosh first. Windows came later. In fact, in 1992, when I joined the company, my job was to help all the other developers target this new operating system at the time, Windows NT, which then subsequently became our server business.

So, partnership, building partnerships, building channels, building third parties is a very ingrained thing. That's why I think of this as rediscovering all the things that Bill and Steve got right in a big way and created Microsoft that we know, and saying, okay, how can we amplify it.

And one of the fundamental lenses through which I view most of the partnerships the way in which we compete. We have a lot of overlap and we'll compete hard. In fact, if anything, I don't want to take away any of the things that we were good at in terms of being able to stand up to competition. But the thing is, let's not look at everything as zero sum . . . Take Apple. We have a cloud service in Microsoft 365 now in Office. And the idea that Apple has a large share in phones cannot be denied; and so, therefore the goal, just like we did maybe 30 years ago when building Office for the Mac, we decided to be sure that we had the best applications for iOS.

It's a no brainer. It's something the customers expect. And now, my vision, of course, is not about the device, it's about the mobility of the human experience. And it's worked out well for them and for us.

On the importance of culture to innovation

Nadella: One of the things that happens when organizations achieve success is this amazing virtuous cycle lock between the idea, the product and the concept that originally became a hit—the capability that got built around it and the culture that cultivated that capability.

So, you have a successful product. You have all these three things going around and around with increasing speed. Except one day the product that was once novel stops growing. There's no such thing as a perpetual motion machine. That's when culture will matter, because you now need new capability that the culture will have to foster, that then helps you come up with the new concept.

So, one of the challenges of teams is, and companies and leaders, is to be able to recognize when to hit refresh, when is that need to transform. And a lot of us can sit around and say, wow, change is good, except we know that change is hard. We want everyone else to change and hit refresh, not ourselves.

But the real trick is to be able to question that status quo. So, the more we have a point of view, a world view of where we can serve our customers better or some innovation that we are passionate about and we go about that versus being bound to today's status quo, that, to me, is perhaps the most important thing the leaders have to achieve.

On empathy and innovation

Nadella: One of the things I've come to realize is, empathy is not just this word that's used outside of work. If anything, I think it is central to innovation. Let's think about this for a second.

What is our business? Our business is about meeting unmet, unarticulated needs of customers. There is no way we are going to be able to do that if we do not have empathy for our customers. And that's not just about listening to them, but you've got to really have the sense of what their needs are. So, to me, I think it's core to business and innovation.

And then the question is, how do you develop this sense? You can't just say I'm going to go to work today and show empathy for my customers. I think it has to be something that you've got to practice in life . . . In fact, if anything, I would say it's every passing year, it's the harsh lessons of life that have taught me how to develop a keener sense of empathy for more and more people around me so that I can be better—better as a parent, better as a leader, better as a driver of innovation. That's, I think, where it comes from.

On living in America and immigration

Nadella: I'm a product of two amazingly unique American things. One is American technology reaching me where I was growing up [in India] and letting me even dream the dream; and then the American immigration policy, letting me come and live the dream.

I start with the greatest of admirations for our country. And I fundamentally believe that immigration is one of our competitive advantages, where you can attract the people and even you can take somebody who is mediocre like me and turn them into a better person who participates in the economy.

But I think that's definitely something we want to preserve. But not only just for high skill, if I may say so, I think we also get our strength as a country because of our humanity. After all, the United States acts as the bastion of hope for those who need it the most. That gives us strength.

But I do believe American immigration policy should think about two things which give us strength: talent that we can attract and retain and the hope that we have given the world which gives us strength. Both of those I think are super important.

On case law and data privacy

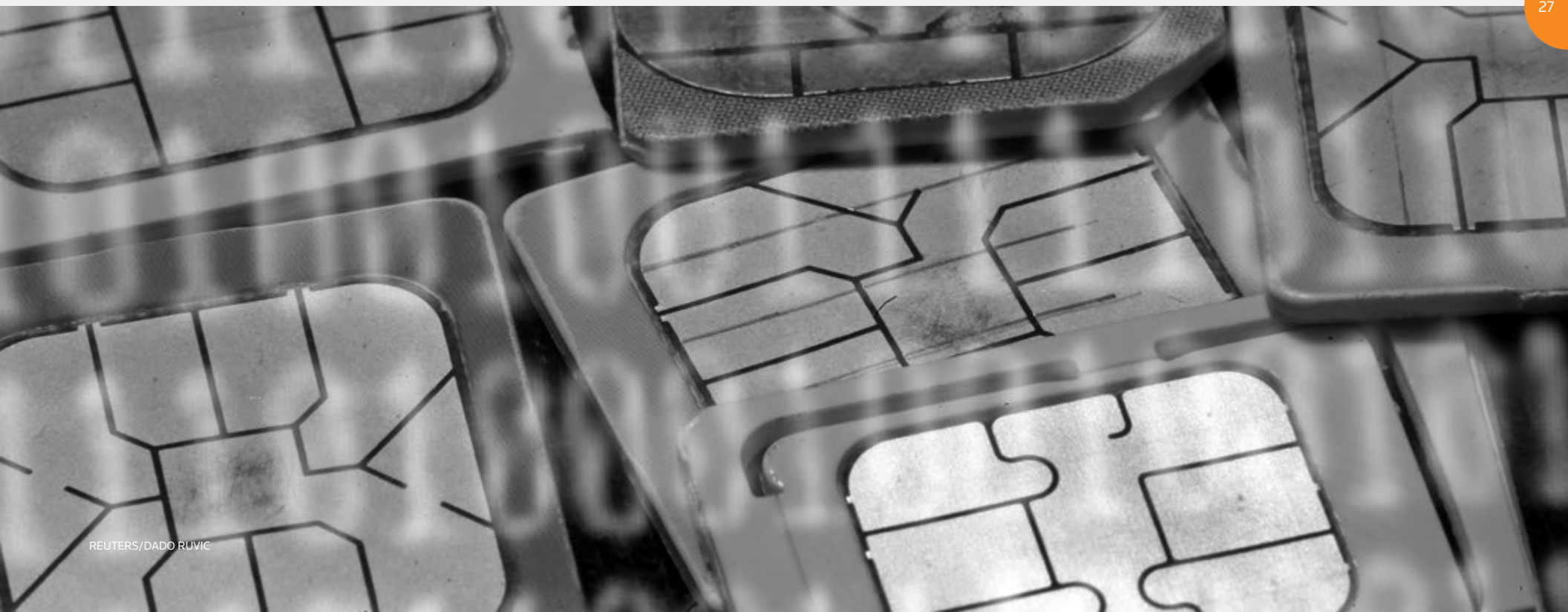
Nadella: What I want to do as a CEO and what is expected of people like me as CEOs of companies is to have a set of principles that we use to draw lines. And then move the courts, because we are subject to the laws of the land; and ultimately, when we see an overreach, even by our government, we will fight it in the courts.

And then we will let the legislative process in the courts define the laws. And one of the other things I'll also mention is that we cannot have just laws in one country, because the Web or the Internet, the digital infrastructure, is where information does flow more freely.

So, we need an equilibrium between the United States and the European Union and even China. Without that, I think we are going to have real issues. We're going to have real fundamental fragmentation, which the world can ill afford.

And so these are tough times in that context, but what at least governs my actions is to have a principled approach to this so that we are doing what is expected of us to engender trust from all constituents.

Go to <http://reuters.com/newsmaker> for the full transcript of the interview with Reuters Editor-at-Large Sir Harold Evans.



BUILDING FORTITUDE IN TODAY'S TECH WORLD

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