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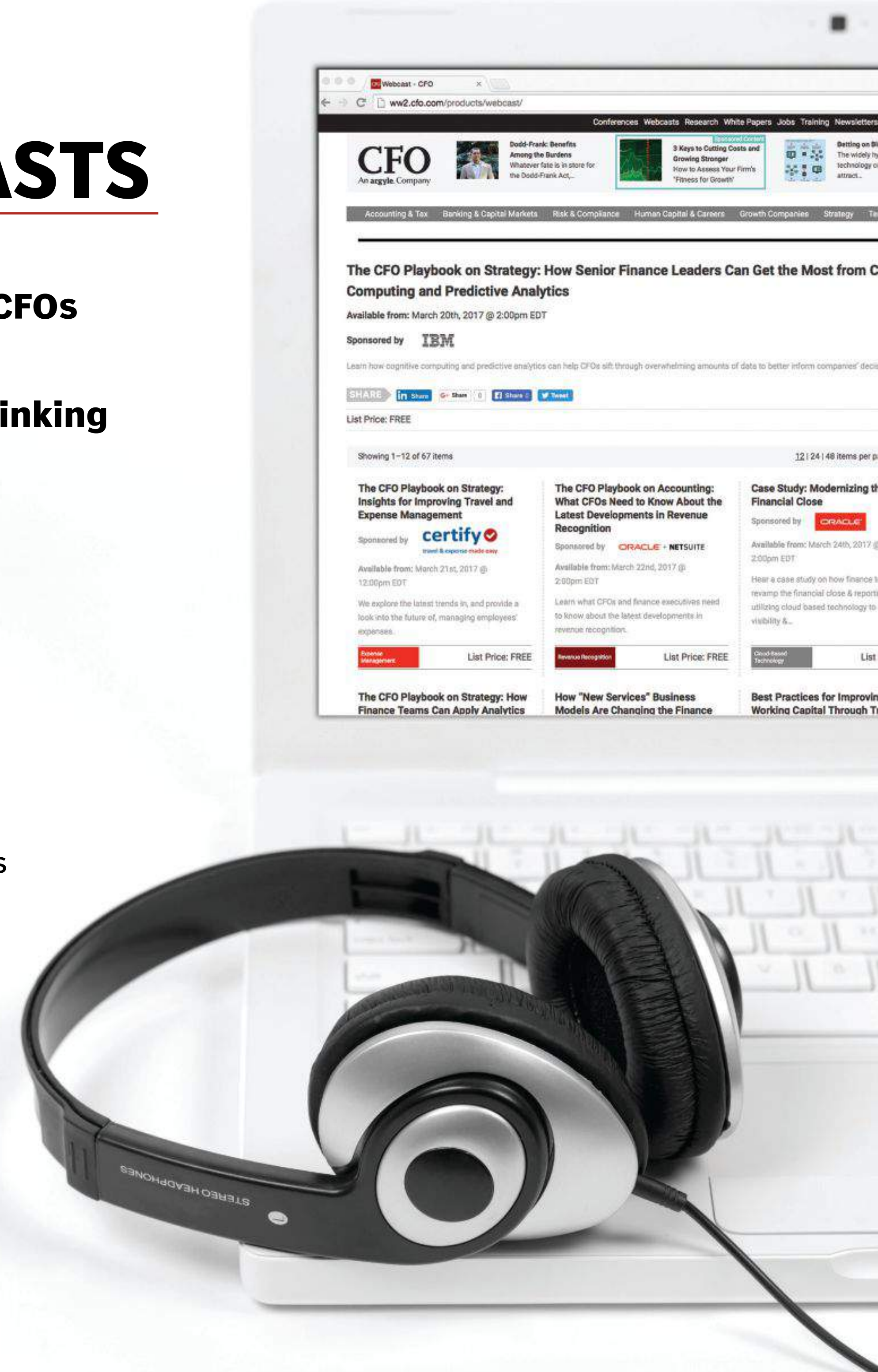

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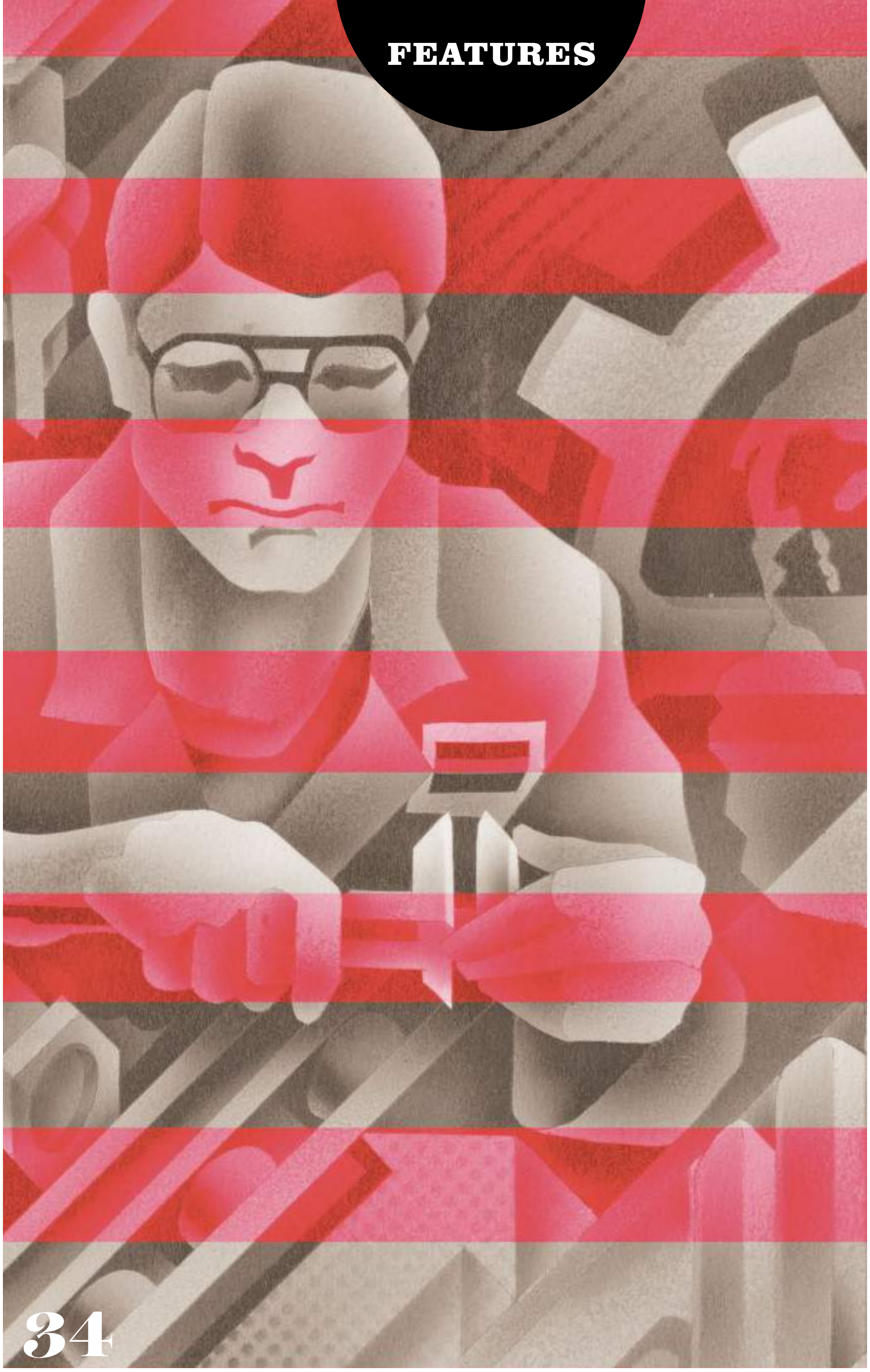

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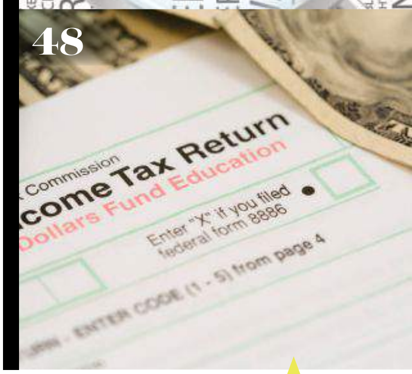
Up Front



By the Numbers

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FROM THE EDITOR

Be Like Amazon.com

››On page 14 of this issue, we report on a study about financial statement place order. It turns out, according to the Georgia Tech Financial Analysis Lab, that when deciding which financial statement to place first in an annual report, companies lead with their strong suit. Among the 400 companies examined, 68% presented the balance sheet first and about 32% led off with the income statement.

Very large U.S. companies tend to put the income statement first—64% of the 100 companies with revenue above $30 billion did so. Only as companies get smaller do they tend to lead off with the balance sheet.

Annual report organization just reflects what we already know: Many institutional investors, media, and analysts are obsessed with quarterly earnings numbers, so CFOs and their bosses at very large companies stress earnings numbers.

But management ought not join in that unhealthy preoccupation. In a letter to 500 CEOs in February, BlackRock's Larry Fink called on companies to stop providing quarterly earnings estimates, and instead focus on long-term value creation. "CEOs should be more focused ... on demonstrating progress against their strategic plans than a one-penny deviation from their [earnings per share] targets or analyst consensus estimates," he wrote.

In the Georgia Tech report, one very large company led off its annual report with something different: the statement of cash flows. That company? Amazon.com.

Focusing on cash flows, as Amazon has done since 2003, makes a lot of sense. Earnings can easily be manipulated, cash flow not so much. Classic corporate finance tells us that the value of any business is the net present value of its future cash flows. And, in fact, a focus on cash flow can free a business from the shackles placed on it by creditors and shareholders. If a company can operate with very little leverage and never has to issue additional equity, missing earnings occasionally won't scare away investors. Unfortunately, few companies (and CFOs) have the audacity to challenge the status quo, even in the layouts of their annual reports.

Vincent Ryan
Editor-in-Chief

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EDITOR'S PICKS

STRATEGY

"If the forces in the world that relate to sustainability are going to affect a business materially, it's management's job to take a longer view and figure out what to do about them," according to Tim Koller of McKinsey, in "When Sustainability Becomes a Factor in Valuation." Read the article at http://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/when-sustainability-becomes-a-factor-in-valuation.

FINANCE

Back-to-school time in Boston means the return of CFO's Treasury and Risk Management Summit, taking place September 7-8, 2017. This year's speakers include the treasurers of MasterCard and Blackstone. Learn more at https://theinnovationenterprise.com/summits/treasury-management-summit-boston-2017.

Mark Bennington


Seeing is believing.
Uncovering anomalies is at the heart of audit's value.
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THE BUZZ ON CFO.COM

Let's just say that *CFO* readers aren't big fans of raising the minimum wage.

In a Feb. 17 opinion piece (**"Raising the Minimum Wage Makes Economic Sense"**), contributor Holly Sklar noted that low earners are low consumers, are the most likely to spend increased wages, and disproportionately contribute to high turnover. But the audience wasn't buying in.

"Just raise the minimum wage to $100 per hour, and everyone will be wealthy," offered one reader, among many who decried Sklar's sentiments. Not holding anything back, another charged that the article was "the dumbest thing I have read in weeks."

Noting that his state will raise the minimum by four bucks an hour over the next few years and that his company pays the minimum to teenagers, the commenter further vented, **"I will not pay a teenager $11 to $15 an hour to do mundane tasks.** Now moronic do-gooders have kept three to four high school [kids] from getting work experience and some pocket money."

In **"Metric of the Month: Financial Shared Services Centers"** (March 8), contributor Mary Driscoll extolled the economic value of top-performing centers. That notion, too, drew objection.

"Proponents miss the most important reason why an SSC is a bad and very costly idea," a reader opined. "The best accounting staff employed by a company have ownership in that company. They know what is bought, they know what is a good price, they weed out duplicate or fictitious invoices. Employees of SSCs in general are lower-paid employees whose sole measured goal is to process and pay invoices as quickly as possible."

Contributor John Passmore, in **"How to Mess Up Investor Relations"** (Feb. 23), argued that it's not ideal for the CEO to take the lead role in an investor road show. Investors will then come to depend on someone "who is seldom available when really needed."

That was something of an overstatement, according to one audience member. **"Corporate access is weighed differently depending on investors' models and investment policies,"** he wrote.

Additionally, the reader observed that while it's often the investor relations officer who introduces investors to the company's "qualitative side" (such as its value-creation strategy), "when that investor becomes a core investor, meetings with the CFO can be very worthwhile."

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Topline

STATS OF THE MONTH

UNBALANCED

$19.9 trillion
Cumulative U.S. government debt*

$559 billion
2017 projected U.S. budget deficit

$223 billion
Annual interest paid on the national debt, 2015

$1.4 trillion
Projected U.S. budget deficit for 2027

$12.6 trillion
Total U.S. household debt†

* As of March 2017
† As of February 2017
Sources: Federal Reserve; Congressional Budget Office

HUMAN CAPITAL

Promoting CFOs From Within

Succession plans are less risky when the new finance chief is an internal hire, a top talent expert says.

The average age of CFOs at large companies is 53, and they've held that post with their current employers for an average of 5.1 years.

They're significantly younger and less-tenured than the average CEO, who is 58 years old and has been in his or her existing job for 8 years. But CFOs have been serving longer than chief human resources officers (5 years), chief information officers (4.3 years), and chief marketing officers (4.1 years).

None of that information—provided courtesy of Korn Ferry, which studied the C-suites of the 1,000 largest U.S. companies by revenue—is quite earth-shattering. But what is very interesting about CFOs at large companies is where they are coming from.

In calendar years 2015 and 2016, 59% of the CFOs appointed by the 1,000 companies were promoted from within. That was up from 51% in the four prior years. And long as the economy continues to steer clear of a recession, even more CFO roles are likely to be filled internally, according to Bryan Proctor, senior client partner for Korn Ferry's CFO practice.

"The CFO job market is stabilizing," he says. "That could change if there's a big recession that sends companies from growth mode to restructuring mode. But I think we're going to see more internal promotions."

Typically, a succession plan for a CFO or CEO takes a few years to reach fruition, says Proctor. So there may be a surge of executive promotions as the economic recovery lengthens.

"With the CFO market stabilized, there will be enough time for succession plans to come full cycle," he says. That would be a good thing, because "it would mean companies are being more thoughtful in their long-term strategy and tying talent to that."

Overall, large companies are paying more attention to CFO succession planning these days, according to Proctor. Historically, while most companies asserted that their succession plans were robust and thoughtful, such assertions were often lip service, to some extent.

"The same thing applies to understanding the benefits of diversity," Proctor says. "A lot of companies have a diversity program but don't monitor it or hold themselves accountable to it. What usually ends up happening is that pressure from investors and the board [pushes] them to do it, and then they start to see the true benefits."

Increasingly, internal succession plans are being seen as less risky, Proctor notes. "When you go outside, you always assume a risk. It's somebody you don't know, and there is a risk of organizational rejection," as the candidate's relative ability to understand the complexities of the business and [thereby] build credibility may be lacking, he says.

Building finance teams where the roles below CFO are filled with people of varying experiences increases the odds that if the company were to, for example, change strategic direction, there would be an apt person to take the top slot should it open up.

Internal succession is also facilitated when a CFO or CEO is confident enough to move people to roles where they have no experience, as might happen when a controller takes over investor relations or a corporate accounting manager moves to an operating finance role.

"There may be risks associated with that," says Proctor, "but the upside is that when succession is needed, there are individuals in the organization with the breadth of experience needed to be successful.

"CFOs who don't think about that, who always need to have experts running all of their functions, risk waking up in three years to a realization that they didn't develop anyone enough to be their successor. Then the company has to go outside or risk promoting someone who doesn't have all the boxes checked." **DAVID McCANN**

THE ECONOMY

Retail CFOs: Too Optimistic?

After two straight years of softening predictions and despite the many national retailers with financial troubles, 100 retail CFOs in the United States forecast 4.9% sales growth for the industry in 2017, according to the results of a survey released in late March.

Sparked by their bullish projections of online revenue and a lucrative 2016 holiday season, their projection of overall sales growth spiked this year after forecasts of 3.9% for 2015 and 3.4% for 2016, according to the BDO survey. The finance chiefs' forecast for sales growth in online channels for 2017 hit 10.7%, the highest level in the survey's 11-year history.

But right after the finance chiefs were surveyed in January, the industry began to face headwinds that might eventually threaten the accuracy of its optimistic outlook. First was a substantial sales slowdown in February.

Natalie Kotlyar, the national leader of BDO's consumer business practice, attributes the slowdown in part to what she said was the late arrival of

IRS refund checks, meaning that consumers had less money to spend.

Another factor might be that February 2016 had one more day to sell goods because it was a leap year, thus decreasing the sales performance of February 2017 by comparison. But "ultimately two months don't make a year," she said. "I think retailers are in general cautiously optimistic."

More ominous is the possible enactment of a federal border tax on imports (accompanied by a tax break on exports) that could devastate the many retailers who fill their shelves and warehouses with them. True, many would also benefit from the big cuts in corporate taxes being contemplated by President Trump and Congress. But the result may end up a net loss for the industry, according to Kotlyar.

Maybe the tax cut and the border tax "will balance out for some of the industries out there or even the economy as a whole," Kotlyar acknowledged. "However, when it comes to retail, because so much of the product is imported and so many [retailers] have relatively low margins, the retail sector overall is going to be hurt by these changes."

At the time the survey was conducted in January, however, "a majority of retail CFOs were not familiar with the specific proposal on import tax," said BDO. In all, 22% of the retail CFOs cited federal, state, and local regulations as the top risk keeping them up at night, according to the survey. **DAVID M. KATZ**

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FORECASTING

Cash-Flow Forecasting Flawed

Cash-flow forecasting is still a challenge, suggests the Global Corporate Treasury Benchmarking survey by PwC. More than half of 220 finance executives surveyed are concerned about forecast accuracy, collecting forecast inputs on time, and the reliability of the systems and processes used to gather the data.

"Treasury forecasting is still a cumbersome, manual, and spreadsheet-based process involving many people from across the organization, resulting in monthly or quarterly, rather than weekly, updates," said PwC in its report.

According to the survey results, 53% of the respondents update cash-flow forecasts monthly; 23% update them quarterly; and 15% update them weekly.

Forecast horizons vary: 27% forecast the current budget year, 25% the current quarter, and 19% the current month. Almost a quarter of respondents (22%) use a 12-month rolling forecast.

Concerns over the accuracy of forecasts may be related to the granularity of inputs. Most companies "have forecasting reports only at a consolidated level using monthly input numbers at the transaction-type level," explains PwC. "Less than 6% of the respondents make use of the inputs at the transactional level."

Another factor is the all-important challenge of cash visibility. While daily visibility into bank account balances is better for many organizations than it was years ago, on average, respondents to the PwC survey said they have daily visibility on 71% of all bank accounts and 80% of their total cash balances.

"The bank accounts not visible are typically stand-alone accounts with local banks for which only local management has access," says PwC.

For many companies, this problem won't go away soon. Survey respondents have an average of 344 bank accounts with local banks. **VINCENT RYAN**

LEGAL

Class-Action Settlements Skyrocket

U.S. courts approved more securities class-action settlements in 2016 than in any year since 2010, according to a report from Cornerstone Research.

The 85 settlements reached last year were just five more than the previous year. However, the aggregate dollar amount in the cases, just under $6 billion, was nearly double the 2015 total and the second highest of the past decade.

As reported in "Securities Class Action Settlements—2016 Review and Analysis," the dollar increase was fueled by 10 mega-settlements ($100 million or more), which accounted for 81% of all settlement dollars. The number of mega-settlements was the highest in 10 years and included two cases that were settled for more than $1 billion each.

The concentration of settlements' dollar volume in a few cases is not unusual. "Class-action securities fraud litigation is a hit-driven business," observes Joseph Grundfest, a professor at Stanford Law School. However, the number of mega-settlements as a percentage of all settlements was the highest in a decade.

At the same time, a roughly 40% increase in the median settlement amount, to $8.6 million, indicates a shift for more typical securities class actions as well. Driving that result, defendant firms overall were substantially larger in 2016 than those that settled class actions the prior year.

"Estimated damages," a simplified calculation representing a proxy for damages, is an important determinant of settlement amounts. In 2016, average estimated damages increased to $4.8 billion, up from $4.4 billion. **D.M.**

Let's Make a Deal

in $ mil	2015	2016
Median	$6.1	$8.6
Average	$38.4	$70.5
Total amount	$3,072.8	$5,990.0
Number of settlements	80	85

Notes: Settlement dollars are adjusted for inflation; 2016 dollar equivalent figures are used.
Source: Cornerstone Research

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ACCOUNTING

FASB Updates Pension Reporting

By the end of 2017, public companies offering defined-benefit pension plans will have to disentangle the costs of their plans when reporting them on their income statements, according to the Financial Accounting Standards Board.

Prompted by stakeholders who complained that current rules requiring companies to report pension costs on a net basis caused them to meld dissimilar expense components, FASB issued an accounting standards update in March.

"These stakeholders stated that the current presentation requirement is less transparent, reduces the usefulness of the financial information, and requires users to incur greater costs in analyzing financial statements," according to the update.

FASB aims to improve how net pension and post-retirement benefit costs for a specific period are reported. The standard the board is targeting, Topic 715, Compensation—Retirement Benefits, doesn't say where net benefit costs should be placed in an employer's income statement.

The update requires that an employer report the service cost component in the same line item as other compensation costs arising from employee service during the given period. "Service cost" refers to the pension and benefit costs incurred by an employer during the covered employee's length of service.

The revised standard "also provides explicit guidance on how to present the service cost component and other components of net benefit cost in the income statement. Furthermore, it allows only the service cost component of net benefit cost to be eligible for capitalization," the board states.

Under the new standard, the other components of net benefit cost will have to be reported separately from the service cost component. (The other components are interest cost, actual return on plan assets, gain or loss, amortization of prior service cost or credit, and amortization of the transition asset or obligation.)

The update will be effective for annual periods beginning after December 15, 2018, including interim periods within them. **DAVID M. KATZ**

CYBERSECURITY

Data Breaches Hit All-Time High

The number of reported data breaches in the United States hit an all-time high in 2016, thanks in part to phishing hacks that send employees phony emails, purportedly from top executives, requesting sensitive business data. Researchers from the Identity Theft Resource Center and data-security provider CyberScout scoured federal and state government records from 2016 and estimated that a total of 1,093 breaches occurred last year. The record high represents a 40% hike in the number of incidents over 2015.

Experts are unsure whether the 2016 spike was caused by a surge of actual breaches, an uptick in incident reporting, or some combination of both.

"The ITRC has been aware of the under-reporting of data breach incidents on the national level and the need for more state or federal agencies to make breach notifications more publicly available," said ITRC president and CEO Eva Velasquez. "This year we have seen a number of states [address the issue] by making data breach notifications public on their websites."

The center defines a data breach as an incident that puts personal information at risk, like exposing an individual's name combined with a Social Security number, driver's license number, or medical record. For the eighth consecutive year, hacking and phishing attacks were the leading cause of breaches.

The 607 hacking breaches in 2016 represented an increase of almost 18 percentage points over the prior-year period. An estimated 26 million personal records were exposed. CEO spear-phishing breaches also rose.

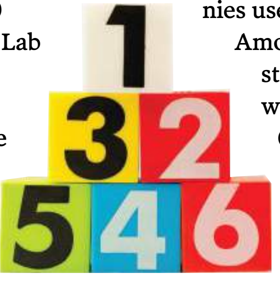
All other types of data breaches, including thefts by company insiders and attacks on third-party vendors, declined. **SEAN ALLOCCA**

FINANCIAL REPORTING

Which Financial Statement First?

What determines the order in which companies present financial statements? It's likely that CFOs of mature firms simply keep the order the same year after year without making a conscious decision.

But in studying the 2015 annual reports of 400 companies, the Georgia Tech Financial Analysis Lab observed distinct patterns that suggest reasons for financial-statement placement order.



Among the 400 companies, 68% presented the balance sheet first and 31.75% led off with the income statement. That left a single company from the data set—Amazon.com—with the maverick strategy of putting the cash-flow statement first.

Amazon has presented cash flow first for each fiscal year since 2003. The Management's Discussion & Analysis (MD&A) section of the company's annual report for that year included, for the first time, the following statement: "Our focus is on long-term, sustainable growth in free cash flow."

For that and other reasons, it's apparent that Amazon puts its cash-flow statement first to highlight the company's focus on cash flow, according to Georgia Tech accounting professor Charles Mulford and MBA student Biro Condé, authors of the study.

In fact, a main finding of the research was that companies use placement order to emphasize their strong suits. Among the 400 companies, those putting the income statement first were larger than those starting off with the balance sheet, in terms of both revenue (median $30.9 billion vs. $319 million) and assets (median $16.6 billion vs. $1.2 billion). Those emphasizing the income statement were also more profitable, reporting higher median return on equity (12.8% vs. 7.3%) and net margin (6.4% vs. 5.1%).

For newly public companies, the emphasis is often more on a "fiduciary or stewardship responsibility for the resources trusted to management," according to the paper. In the S-1 registration statement for the IPO of Snap, the balance sheet was placed first.

"[Snap] has such significant losses and is consuming so much cash, the company would rather put more emphasis on its balance sheet," the authors wrote. **D.M.**

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Is Internal Audit Doing Its Job?

Although the ranks of Internal auditors are growing, many executives doubt the function's ability to anticipate business disruptions. By David M. Katz

In the eyes of CFOs and many other senior executives and board members, the internal audit function is fast losing prestige, a new study suggests. ¶ The reason? Most internal auditors are slow to help their employers prepare for and respond to major corporate "disruptions" like big regulatory changes and cyber attacks, according to PwC's 2017 State of the Internal Audit Profession Study.

The portion of "stakeholders"—internal auditors, senior executives, and board members—reporting that "internal audit adds significant value" plummeted from 54% in 2016 to 44% in 2017, reaching its lowest level in the five years PwC has been tracking the metric.

Of the 1,900 stakeholders responding to this year's online survey, 58% were internal audit leaders and their direct reports and 42% held management or board titles. Of the latter, 160 were CFOs, according to a PwC spokesperson.

A key reason that so many stakeholders of the internal audit function—including, apparently, many internal auditors themselves—feel that internal audit isn't adding significant value is that they're slow to anticipate the huge changes affecting businesses these days, according to Mark Kristall, a PwC partner and an author of the report.

Such IA departments "aren't keeping up with the pace of change," he said. They only become involved "after the disruption has already happened and affected the organization."

But is that really the case?

For his part, Richard Chambers, president and chief executive officer of The Institute of Internal Auditors (IIA), characterizes the steep descent in stakeholders' notions of the value of internal audit as part of the "ebb and flow" of the percentage over the four years that PwC has asked the question. Thus, he noted, it was 54% in 2014 and 48% in 2015, before rising again to 54% in 2016 and dropping to its nadir of 44% this year.

"I'm not particularly troubled by a one-year fluctuation," says Chambers, who points out that he worked on the survey while serving as national practice leader in internal audit advisory services at PwC until 2009.

"Stakeholders, like consumers, tend to vote with their wallets," he adds. "If I look at what stakeholders are doing in terms of investment in internal audit, I would have to say that they are continuing to invest resources."

Chambers cited a recent IIA study that found that 30% of 538 internal auditors expect their staff size will grow by 30% in 2017, the highest percentage of growth forecast in the study in the last five years. "If almost one in three internal audit departments are getting more staff, that's usually a pretty good indication for me that they are serving the needs of their stakeholders, and that those stakeholders are investing yet more to [bring] that service to even a higher level," he says.

Constant Threats

The top five disruptions businesses say they are regularly facing (and need internal audit to help with).

New regulation	58%
Changes in business model or strategy	44%
Cybersecurity and privacy threats	37%
Financial challenges	36%
Technology advancements	34%

Note: Multiple responses allowed.
Source: PwC's 2017 State of the Internal Audit Profession Study

Defining Disruptions

The PwC study's authors define "disruptions" as "significant, quickly developing, and potentially unplanned or unanticipated events that create risk and potential opportunity, demanding the attention and resources of the business."

These events "are no longer episodic," according to the authors. "In fact, they are constant, ranging from disruptive innovation that creates a new market, to economic volatility, regulatory changes, or even a catastrophic event," they write. (For a list of the disruptions, see "Constant Threats.")

Noting that the most significant disruptions can vary by company or industry, Kristall said that, for example, the hospitality and taxi and car service industries have recently been facing the likelihood of significant regulatory change.

Just a few years ago, the core competition for hotel chains was other hotel chains. Now, these chains are being challenged by apps that direct users to accommodations in people's homes. Similarly, taxi companies are being challenged by private drivers summoned by mobile apps. At the same time, the public is looking at these new players to determine "what regulations we need" to govern them, Kristall said. Internal auditors "have to understand the regulatory environment to provide value back to stakeholders," he added.

Most respondents who felt internal auditors weren't consistently responding well to disruptions felt that the biggest barrier internal auditors face in providing such value was "a lack of subject matter knowledge to address disruption," according to the study.

Some companies are coping with shortfalls in internal auditor subject knowledge on a project basis by using "guest auditor programs," according to Kristall. Such companies might consider shifting their supply chain experts to serve temporarily on internal audit teams, for instance, he said.

Overall, an internal auditor needs to become a "strategic partner" to management rather than the corporate "police officers" they've traditionally been, according to Kristall. Speaking of a major disruption, "if an internal auditor is finding out about it after the fact, it's too late," he said. CFO

Forgoing Cyber Insurance

Potential coverage gaps and uncertainty over the value of policies make businesses wary.

A September 2016 survey by the Risk and Insurance Management Society found that 80% of companies surveyed bought a stand-alone cybersecurity policy in 2016. The takeaway, according to RIMS, was that policies covering cyber exposures exclusively are now the norm for many large companies. In fact, the survey made it seem like buying cyber-insurance was a no-brainer.

But new research from the Deloitte Center for Financial Services throws cold water on that assessment of market conditions.

After conversations with primary carriers and brokers writing cyber-insurance coverage, Deloitte produced a report detailing a host of problems in the buying and selling of cyber insurance—problems that limit companies' ability to find the right coverage and make them uncertain how well-covered they are when they do purchase a policy.

For example, companies have a "hard time quantifying exactly how big a risk they face," says the Deloitte report, "Demystifying Cyber Insurance Coverage." It explains: "That may lead to uncertainty about what type of coverage and how much insurance [a company] might need, as well as the cost/benefit associated with transferring at least part of this burgeoning exposure to insurers."

Complicating this fact, for buyers and carriers, is the "continuous evolution of risks that undermine exposures' predictability," notes the report. "As underlying exposures continuously shift, insurers adapt to one type of attack only to face a new threat technique. ... Operationally, innovations in business—like [the Internet of Things] and autonomous vehicles—also pose new cyber-attack possibilities that need to be assessed and insured."

Cyber risk may be included as part of a range of products, Deloitte says, "including general liability, property, professional liability, business interruption, and crime policies. This complicates efforts by the buyer to match policies with exposures and compare alternatives."

An additional issue with cyber-risk policies is their lack of comprehensiveness. "Many insurers have tunnel vision when it comes to writing policies, focusing primarily on marketing cyber products for personally identifiable data hacks."

For buyers, this can be a major turnoff. "Concern over potential coverage gaps seems to be a major reason why many businesses that want and need cyber insurance are passing for now," says the Deloitte report.

In addition, "many large commercial buyers wonder whether the coverage being offered by insurers is sufficient for the premiums they're being asked to pay," Deloitte says. Cyber policies often are capped with relatively low limits for the risks being covered, which may be discouraging more buyers from taking the plunge.

▸ VINCENT RYAN

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Making Profit the Priority

Pre-IPO digital marketing hub Zeta Global is highly focused on the bottom line. By David McCann

In the field of digital marketing hubs, which is dominated by mega-players Adobe, Oracle, and Salesforce, it's not easy for smaller contenders to attract notice. But that doesn't mean the smaller fry don't have aspirations. One of them, Zeta Global, is more oriented toward bottom-line growth than most pre-IPO software companies, according to its CFO, Jarrod Yahes. That's just one among several factors that make an initial public offering a likely exit for the company's financing partners.

Yahes has been getting his feet wet, having joined Zeta in October 2016 from tax-planning firm Jackson Hewitt, where he was finance chief. One thing that attracted him to the new job was that organic growth and acquisitions (including two major ones in the past year) were roughly equal factors in the company's overall growth. And Zeta Global intends to maintain that balance going forward.

For 2017, Zeta—founded 10 years ago by CEO David A. Steinberg and former Apple and Pepsi-Cola CEO John Sculley—is showing a run rate exceeding $300 million, Yahes says. That's a tiny fraction of the heft enjoyed by the leaders in omni-channel marketing software, yet the firm is taking direct aim at them by going after *Fortune* 1000 companies.

Still, there are some key steps the company must take before it can go public, let alone have a real shot at catching leading competitors. Yahes spoke with *CFO* about Zeta's challenges and opportunities. An edited transcript of the conversation follows.

As you came into this new job, what did you identify that needed your attention right away?
Despite the company's strong focus on both top-line and bottom-line growth, there has not been any focus on in-depth reporting of financial and nonfinancial metrics.

I expected to see that we were on an ERP [system] and had a traditional [business intelligence] tool on top of it, whether Hyperion, Cognos, Business Objects, or what have you. It was shocking that a company of this size was doing its budgeting, planning, forecasting, and financial reporting out of Excel.

So that's an enormous priority for us. The good news is that, since we don't have significant sunk costs in legacy technology, it's highly likely that we'll make a quick jump to the cloud for both financial ERP and financial BI.

You mentioned nonfinancial metrics. What are some key ones?
The utilization rate for our digital marketing automation platform is extremely important. Ultimately it's what drives our revenue—customers using it for marketing via email or social media, for example, and the [visibility] it gives them into what channels they're using, what the volumes are, and the effectiveness and return on investment they're getting from each channel. We really have to keep working on this.

You've said that the company is highly focused on the bottom line. What does that mean?
We're quite evolved in terms of driving a profit-and-loss mentality throughout the business. David Steinberg, our CEO, and Steve Gerber, our chief operating officer, created what is effectively a "general manager" structure. They are big believers in variable compensation driven by the profitability contributions of the various business lines.

The leaders of the businesses have P&L ownership—they're in charge of the top line, cost of goods sold, and overhead, and everybody sees where they stand in terms of the marginal contributions. That kind of focus is probably somewhat more difficult [to achieve] for other entrepreneurial software companies.

What is the reason for that approach?
Zeta has acquired four customer relationship management software businesses in the past few years, most recently the Axciom Impact business

last September. Zeta started [in 2007] as a digital marketing company for the for-profit education space but since then has gone through a [significant] pivot into digital marketing hub technology.

Is an IPO the company's clear goal?
It will probably make sense for us to go public at some point. We have a pretty blue-chip list of *Fortune* 1000 clients, which want the financial transparency and credibility that comes from working with a public company.

I also think that, at the right time, the public markets would be a great source of capital for us. There are tremendous acquisition opportunities out there. In fact, don't be surprised if you see us continue to buy up CRM software assets before heading down the path of going public. We'd like to go public with even greater size and scale than we have today.

We'll also need capital for organic growth. One of our big areas for investment right now is incorporating machine learning into our software platform. The idea is that, as our clients execute on their marketing campaigns, our system sees their behaviors and gets smarter.

I don't see us making an acquisition in that area, because the multiples are just too high. But we're really starting to build out a very strong team in order to incorporate machine learning, and we could step that up if we became a public company.

Aside from implementing a financial reporting system, making more acquisitions, and, of course, getting Sarbanes-Oxley controls in place, what else will be key to becoming a public company?
The other piece that's extremely important is making sure we have very strong revenue visibility. Our visibility 12 months out is already probably greater than 70%, but it would be fantastic to go public in the ballpark of 80% to 90%. Acquiring more SaaS-based CRM businesses will really drive that.

The company is meaningfully EBITDA-positive, and I think we understand that investors are looking for levered-free cash-flow profitability from a public company. CFO

Motivated to Sell

Pressured by external factors, 43% of executives plan to divest a business in the next two years.

Macroeconomic volatility, geopolitical uncertainty, and anticipated regulatory changes are leading companies to jettison some assets, even if that means losing value in the process, according to research from Ernst & Young.

The EY Global Corporate Divestment study polled 900 corporate executives and 100 private-equity executives worldwide and found that unpredictable political and business landscapes have been, and will be, among the top motivations driving companies to sell off businesses. But by fleeing geographies because of short-term fears, companies can "wind up with suboptimal valuations on their businesses," warns Paul Hammes, global divestment leader at EY.

Almost half (43%) of responding companies say they are planning to divest a business in the next two years. The top motivator is "macroeconomic volatility," which 82% of respondents say would increase their chances of divesting. Geopolitical concerns and regulatory changes are also cited, but the frequency depends on respondents' geographic regions.

Companies in the Americas say they will be driven to divest mostly by regulatory changes. Eighty-four percent of respondents in the region say new regulations will be the motivation for divestment decisions over the next year. Technological disruptions (57%) were another top factor.

But European, Middle Eastern, and African (EMEA) companies are far more concerned with the geopolitical landscape. Eighty-one percent of those respondents say regional political uncertainty will drive divestments in those regions, while 73% specifically cite Brexit as a top issue.

"In many cases, we are observing impulsive divestment decisions by companies feeling pressured by external factors to take quick action, often at the cost of realizing maximum value," says Steve Krouskos, global vice chair at EY.

In recent divestments, for example, many EMEA companies actually prioritized speed of sale over the total value gained. Forty-three percent of EMEA executives surveyed say closing a deal quickly is more important than gaining value. Only 18% of companies in the Americas agree. "The impact of speed on sale price is significant," says Krouskos.

As a result of hasty negotiations, far fewer EMEA companies say they are satisfied with their overall divestments compared with companies in other regions. For example, 62% of EMEA companies say a divestment created long-term value, compared with 88% in the Americas.

The Global Corporate Divestment study was conducted between October and December 2016. **SEAN ALLOCCA**

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Tax Reform Affects States, Too

The timing of federal reform, as well as the political culture and financial health of states, will affect companies' state tax positions. By Larry Cusack

One of the outcomes of the U.S. presidential election is that the near-term prospects for comprehensive federal tax reform have increased considerably. Yet, while most of the attention has been focused on the federal tax impacts of reform, it is well worth noting that, if enacted, any federal reform will have significant effects on states and their income-tax structures. As a result, tax and finance leaders should focus now on the potential impact at the state level and the current proposals' effect on a company's state tax position.

Reform Matters to States

Nearly every U.S. state that imposes a corporate income tax (44 of them do) conforms in some way to the federal Internal Revenue Code. In large part, states begin the computation of state corporate taxable income with federal taxable income. Therefore, they allow many federal deductions for state tax purposes.

However, states do not generally conform to various federal tax credits, such as those given for using alternative energy sources. Thus, while changes to the federal tax base may well have an impact on state taxes, changes to federal credits and federal rates are unlikely to have a direct impact.

But much will change. There are several considerations that will influence whether and how federal changes might affect state taxes and whether the federal changes will be adopted by the states. They include the following:

• States tend to "pick and choose" the provisions to which they conform. States will often decouple from federal deductions that decrease federal taxable income, such as bonus depreciation and the domestic production activities deduction, because of the impact on state revenues.

• Nearly every state is required to maintain a balanced budget (that is, they're restricted in borrowing for operating purposes). Further, many states are currently expected to experience budget shortfalls, meaning that expected revenues are coming in short of expected expenditures in the current fiscal year. Together, these realities could make states somewhat risk averse in regard to adopting changes with uncertain outcomes.

• Various features of state tax systems (for instance, combined reporting and the degree to which states bring foreign sourced income into a state's tax base) will cause certain federal tax reform proposals under consideration (for example, the disallowance of the interest expense deduction) to have different effects across states. Further, the impact in a given state will depend on the degree to which it currently conforms to the federal tax.

• A major challenge to states will be the timing of federal tax reform. If the federal government actually passes tax reform, when will it become effective? It seems quite likely that if federal reform is passed in 2017, it will be after most state legislatures have adjourned. If so, that means the opportunity for states to respond before 2018 will be limited.

How to Prepare

The net result of all these factors? The outlook for state corporate taxes will be highly uncertain for the next few years. There will be uncertainty as to whether federal reform will be passed, what it might contain, how it will affect the states, whether they will choose to adopt the federal model, and when the states might decide how they will respond to potential reform. But while the outlook is unclear, sitting back and waiting to see how things unfold is not a winning strategy.

There are a number of steps a

company can take to prepare itself for dealing with and managing the state-level effects of federal tax reform. These are some of the questions to be asked and situations to be analyzed:

• What is our tax posture across our most significant states? Where is our liability the greatest, and what is driving that liability? What are the key characteristics of the tax systems in those states?

• How will the key aspects of potential federal reforms affect the tax base and our liability in these key states? Have we modeled the impact of these changes on our tax position?

• What are key officials in these states saying about the impact of federal reform at the state level and the likelihood that they will or will not model the federal changes at the state level?

• What is the overall fiscal outlook for the next two to four years in our key states?

• How might federal changes affect the valuation of deferred state tax assets and liabilities?

• Are there steps we can take now that might mitigate any undesirable outcomes from the federal reform at the state level, or conversely, enhance desirable outcomes?

The Big Question

The question that should be top of mind for CFOs and chief tax officers is: Are tax-rate reductions similar to those proposed at the federal level to be expected at the state level, given the various linkages between state and federal taxes? There is, of course, no one answer to that question.

How states respond to a potentially broader tax base, which minimizes tax preferences to offset the revenue loss from a lower tax rate, likely will depend on a number of factors unique to each state. They include the fiscal condition of the state; the degree to which the state tax base is actually broadened given the different linkages between state and federal taxes and the potential for states to decouple from certain federal provisions; the distributional impact of any potential rate changes in light of the broader tax base; and the political culture and tax philosophy of the state.

Even though the crystal ball is far from clear, the time to analyze and prepare for managing the impact of federal reform at the state tax level is now. Waiting until things unfold will mean your company is reacting to events, not managing outcomes. CFO

Larry Cusack is the national practice leader for state and local tax at KPMG.

GE Transfers Tax Team

GE sheds salaries, while PwC picks up new talent.

Reacting to what it sees as increasing uncertainty about tax rules in the United States and the rest of the world, PricewaterhouseCoopers will hire more than 600 lawyers and public accountants from General Electric's tax team and incorporate GE's tax technologies and processes. In exchange, GE will get to shed salaries while still benefiting from the expertise of its legacy team.

"This arrangement will enable us to continue providing our clients with the very best tax services in an increasingly volatile and uncertain environment," said Mark Mendola, PwC vice chairman and managing partner. At first, PwC intends to establish the new, integrated tax team as a service provider for the team's former employer, Mendola told *CFO*.

After that, PwC hopes to parlay the team into a billion-dollar business serving the tax needs of other corporate clients.

Although President Donald Trump and the new Republican-led Congress have both pledged to reform the U.S. tax system, the exact nature of the reforms has yet to be worked out. "The varying impact of U.S. tax reform on different sectors—from pharmaceuticals to big-box retailers to financial services companies—requires a very deep bench among tax practitioners," Mendola wrote in a blog.

For its part, GE sees the unusual arrangement as a way "to scale to the requirements of the changing GE portfolio," Mike Gosk, a senior tax counsel for the company, said. For the last year and a half, GE has been transforming itself from an infrastructure and financial services giant into an "industrial Internet" company.

Under the five-year agreement, which was slated to take effect April 1, PwC will be adding accountants, lawyers, and other tax professionals from GE's corporate division and the company's other businesses, including GE Capital.

About 20 corporate tax employees will stay on at GE to work on consolidated financial reporting, mergers and acquisitions, and other strategic efforts, along with managing the PwC relationship. An additional 250 tax employees will remain with General Electric to service the company's individual businesses.

Insisting that the arrangement "is not an outsourcing," Mendola noted that no cash was exchanged between GE and PwC. DAVID M. KATZ

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Disruptive Influences

In areas from cyber defense to tax compliance to database management, these 20 companies are changing how businesses operate.

Venture capital money is flowing freely. Cloud infrastructure is enabling startup companies to operate on scant fixed investment. Next-generation technologies are promising to revolutionize business processes. In many ways, it is a boon time for enterprise technology.

But for finance chiefs trying to pick their way through whitepapers, conferences, product pitches, and webinars, the array of products and vendors can be dizzying. And new companies pop up continually, making it difficult to keep up with the latest and greatest.

To give CFOs a sense of the exciting tech developments going on, as well as alert them to innovative solutions, the editors of *CFO* decided to filter the marketing noise generated by tech firms. The goal was to produce a short list of promising companies and applications geared toward the next-generation enterprise. Since CFOs have a large hand in technology adoption, we considered solutions for finance as well as other parts of the organization.

The result is our first-ever list of 20 tech companies to watch, determined solely by the editorial team. Why did we select the companies on the following pages? We think they offer compelling products that address definable pain points in many businesses, and while many of these vendors are privately held, they look to be formidable players in their categories.

In choosing a company, the editors do not vouch for the quality, cost-effectiveness, or reliability of its products—that level of analysis is beyond our technological capabilities. Instead, we are indicating that the solution or product category chosen deserves a CFO's attention and warrants further research. We are also suggesting that, if one of these company names shows up on a manager's expense report or a business unit's budget, a CFO would be smart to explore whether the solution can provide value to other parts of the organization.

Plenty of other companies could have made our list, but for better or worse, the ones on the following pages are those we deem worthy of examination in 2017.

The profiles were written by deputy editors David M. Katz and David McCann, web editor Sean Allocca, and editor-in-chief Vincent Ryan.

Getty Images

AVALARA

Headache Remedy

Unhappy customers, goods that sit idle in warehouses, visits from revenue auditors, class-action lawsuits—those are the dangers of calculating sales and other indirect taxes incorrectly. But keeping track of all the changes from thousands of state and local, as well as international, tax jurisdictions to collect and pay the accurate amount is time-consuming and complicated.

Enter Avalara and its products that simplify sales tax compliance. The Avalara solution sits within a customer's financial, billing, e-commerce, or point-of-sale system and delivers tax calculations in real time over the Internet. It validates the physical transaction address and uses geo-location technology to calculate the tax. Avalara does this for U.S. sales taxes, the goods and services taxes (GST) in Canada and other countries, value-added taxes (VAT), and excise taxes.

Avalara

Product category: Automated tax software
Year founded: 2004
Headquarters: Seattle
Employees: 1,100

Richard Asquith, VP of global indirect tax at Avalara

"We capture all the complexity and variations across countries and U.S. states, and we've implemented into software code a range of different taxes and made it simple and affordable," says Richard Asquith, Avalara's vice president of global indirect tax.

What Avalara does well—accuracy combined with speed—is becoming crucial in the indirect tax arena. "The days of submitting a U.S. sales tax or VAT return months after doing a transaction, which allows lots of time to rethink everything, get the calculations right, and consult counsel, are coming to an end," says Asquith. "Through digitization, taxing authorities are able to peer into transactions through live feeds from ERP and accounting systems."

Using analytics, revenue auditors can check the calculations of tax rates and reconcile those to tax receipts, Asquith says. "We're starting to see tax audits where the tax authorities know more than the CFO, because the authorities have the comparable matching transactions from throughout the supply chain."

Internationally, this is happening in various forms in China, Brazil, Spain, and Poland, and is starting to arrive in the United States, Asquith adds.

Another pressing issue Avalara addresses for companies is cross-border e-commerce sales. Businesses selling into another state or foreign country to a consumer often have to pay customs duties or local sales or import taxes. But if the e-commerce provider doesn't calculate and settle the tax before the product ships, the delivery service has to collect the tax from the customer. Asquith calls it a "choke point" for small firms selling goods online. "Our Landed Cost product is one of our fastest-growing products at the moment," says Asquith.

> **"Through digitization, taxing authorities are able to peer into transactions through live feeds from ERP and accounting systems," says Asquith.**

Besides providing tools for calculating, reporting, and filing, Avalara advises companies on whether they have a "nexus," and therefore a tax obligation, in a particular state. "Companies going national or global can choose to license our software or employ our tax teams and outsource tax compliance," Asquith says.

How does Avalara keep up with about 10,000 U.S. taxing jurisdictions and tax rules in 200 countries? Avalara has tax accountants and tax lawyers scouring tax authority websites for updates and publications, researching court cases, and staying alert for legislative changes.

In addition, since its founding in 2004, Avalara has acquired 17 companies, many of which specialize in tax compliance for specific localities and industries. The company landed $96 million in funding in 2016, so it may continue to roll up other providers of tax compliance engines. An initial public offering may also be on the horizon.

"Having to maintain all the records and reports needed for filing returns was a headache we no longer have," writes one user of Avalara's products on the G2 Crowd peer-to-peer software review forum. "We have freed up at least 50 hours per month that we now put to better use." **VINCENT RYAN**

AUTOMATION ANYWHERE

Front and Back

In a global business environment where companies are fixated on automation and grow more so by the day, a software vendor could certainly choose a worse name than Automation Anywhere.

There is such a company, and it has a lot more going for it than its name. Automation Anywhere is the clear market leader in the burgeoning field of robotic process automation (RPA), and 2017 is shaping up as a year when demand for RPA could explode.

Automation Anywhere counts 27 channel partnerships that generate about 50% of its revenue, but it didn't get where it is via crafty marketing. Forrester Research ranks it first, among many strong competitors, in both the strength of its product and the strength of its overall strategy.

Everest Group, another analyst firm, recently identified the company as one of two RPA players that are market leaders and "star performers" in a matrix evaluation of vendors' product features, implementation quality, and impact on the market.

There's no doubt the company has had an impact: Automation Anywhere says it has more than 500 enterprise clients worldwide and that it experienced net growth of 167 customers in 2016.

Like other RPA vendors, it sells robotics software designed to automatically replicate keystrokes that humans make to complete back-office processes. In the case of Automation Anywhere, such processes include procure-to-pay, quote-to-cash, human resources administration, and claims processing.

Automation Anywhere

Product category: Robotic process automation
Year founded: 2003
Headquarters: San Jose, Calif.
Employees: 350

Mihir Shukla, CEO of Automation Anywhere

But Automation Anywhere works in the front office too, with "good depth" in call-center and other customer-service environments, where humans interact with bots, according to Forrester analyst Craig Le Clair.

In fact, Le Clair says that's the single thing that most distinguishes the company from its competition. "Most of these companies specialized in or evolved from either the back office or front office, but Automation Anywhere has struck a balance," he says.

The company is also balanced across several important RPA performance categories, including strength in desktop integration and in the analytics that drive reporting capabilities, Le Clair says. He adds that Automation Anywhere "has a good road map for analytics in the future."

CEO Mihir Shukla refers to the company's mission as building a global "digital workforce." He says Automation Anywhere has deployed 450,000 bots to date and is aiming to have 3 million placed by 2020.

That kind of growth augurs a potential transformation for companies' decisions on where to locate operations. "The interesting thing about the digital workforce is that it's geography-neutral—once it happens anywhere, it can happen everywhere," Shukla tells *CFO*.

Shukla talks frequently about instilling cognitive capabilities and artificial intelligence into the company's products, but at present those initiatives are in their early stages.

Automation Anywhere headquarters

"The interesting thing about the digital workforce is that it's geography-neutral—once it happens anywhere, it can happen everywhere," says Shukla.

The company recently released a capability called IQ Bot, which offers machine learning—that is, the technology continually monitors the keystrokes humans make to complete processes and thereby improves bot performance without the need for additional programming by humans.

But to many observers, that's not artificial intelligence. "All RPA today is what I call obtuse RPA," says Le Clair. "It handles dumb tasks, there's no decision-making, and the rules are static."

But Le Clair suggests that AI will arrive in the RPA space within two or three years. "It will allow bots to handle advanced exceptions, making decisions about taking one path or another," he says. ▸ **DAVID McCANN**

FINANCIALFORCE

Recognizing Opportunity

With President Donald Trump's executive order requiring federal agencies to cut two regulations for every one they issue and with at least three regulatory reform bills launched in Congress, slashing governmental red tape is very much the rage. The many executives who have long complained about regulations' stranglehold on their businesses apparently have a good chance of getting their way.

Yet for other companies, new rules and standards aren't such a bad thing—in fact, they might provide ample fuel for growth. FinancialForce, an enterprise resource planning vendor with apps that sprouted from the cloud-based plat-

Courtesy the companies

form of Salesforce, is a case in point.

FinancialForce expects a big sales boost from the new revenue recognition reporting standard that will go into effect over the next few years. "From a business perspective, it's frankly a boon to us," says CFO John Bonney.

Public companies are hustling to comply with the complicated standard, which they must start applying to reporting periods beginning after December 15, 2017.

That deadline puts FinancialForce in the catbird seat, Bonney thinks. Under the standard, companies must match a range of performance obligations to revenue. "You can't charge somebody $0 for a widget and $100 for the services [enabled by the widget] and pretend that the widget doesn't have any revenue," the CFO says.

FinancialForce

Product category: Cloud ERP
Year founded: 2009
Headquarters: San Francisco
Employees: 650+

John Bonney, CFO of FinancialForce

Many companies today have multi-element revenue arrangements, including both products and services, that include different kinds of billing for each element. Bonney contends that the firm's billing and revenue recognition software "allows users to isolate each element of the relationship they have" with clients to make it easier to comply with the new standard.

Thus, the firm is currently seeing its greatest demand for and growth in its revenue management and recognition apps, according to Bonney.

Aiming to automate the administrative functions of health care, real estate, management consulting, and other professional services organizations, the vendor's offerings also include accounting and finance, spending, inventory, and talent management tools.

Overall, FinancialForce is growing strongly, according to a vendor profile by IDC. "The company has consistently been in the top five of growing technology vendors in the ERP market," according to the report, which noted that FinancialForce has more than 650 employees worldwide, as well as 1,300 customers.

Late last year, FinancialForce reported that it expected to reach a run rate of $100 million in revenue early in 2017. Asserting that the company is growing just north of 40% a year in revenue, Bonney notes that it's at an inflection point. That means FinancialForce must ramp up to meet its next goal: becoming a $1 billion company.

FinancialForce will face obstacles on the way to its next milestone. The main challenge is that it is still a relatively young company, according to IDC. Although "the team is adding functionality to its solutions very quickly, it has very stiff competition as it seeks to win over enterprise customers."

In competing for such high-end business, FinancialForce "will need to cater to a wide variety of localities and regulatory environments and eventually forge partnerships outside the Salesforce platform," according to the profile.

That's a lot to ask of a firm with fewer than 1,000 employees, IDC acknowledges. But FinancialForce's recent success "proves that the company is on the right track."

DAVID M. KATZ

SPRINKLR

BACK TO THE FUTURE

Sprinklr thinks it knows what the future looks like. The company is trying to spark an evolution in customer relationship management by collecting and leveraging social-media data alongside traditional CRM information. Imagine a system like Salesforce that also collects data about customers from their tweets and Facebook posts.

Sprinklr

Product category: Social media management
Year founded: 2009
Headquarters: New York
Employees: 1,300+

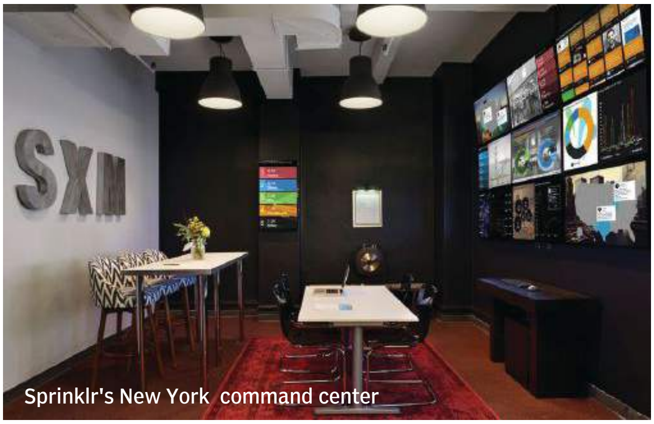
Carlos Dominguez, Sprinklr president and COO

Sprinklr manages more than 4 billion social connections in 150 countries and mines some two dozen social media channels for information about clients' individual customers. Sprinklr incorporates that data directly into a client's existing CRM system. The company co-exists with industry Goliaths, like Salesforce and products from Adobe and Oracle, and provides extra value for businesses that are looking to include social media in their advertising and marketing campaigns.

With more than 1,300 employees in 14 offices worldwide, the six-year-old company now lists 9 of the world's 10 most valuable global brands as clients, including the likes of Nike, McDonald's, and Microsoft. Annualized recurring revenue hit the $100 million mark in 2015, up 150% from the prior period.

"We're in a very interesting space," says Carlos Dominguez, Sprinklr president and COO. While the "big players" already supply CRM systems, "they really don't do social."

The social media management platform mines posts on well-known channels, from Facebook to LinkedIn to the European social media service VK. Dominguez says clients can



Sprinklr's New York command center

“We spend an inordinate amount of time educating and showing folks what the new world will look like. We know where the future is and we’re helping clients get there,” says Dominguez.

use the information to do things such as reach out to customers with highly targeted email campaigns or provide a more personalized experience when customers call company help lines. In one example, a customer called Nike inquiring about a pair of shoes that hadn’t been delivered on time. The agent quickly used social networking information from Sprinklr to learn that the woman was running in an upcoming marathon. The agent took the opportunity to sell her additional merchandise. Dominguez says the $200 pair of running shoes turned into a $400 purchase.

In July, the company raised $105 million in funding led by the Singapore-based investment firm Temasek. The capital might be used to help feed Sprinklr’s healthy merger appetite. The company has acquired 11 businesses to date, 10 in the past two years alone. The laundry list of tech start-ups includes Postano, a social media visualization platform, and Little Bird, an audience insight company. Sprinklr has raised $239 million in funding and is currently valued at $1.8 billion.

In addition, Sprinklr rewrote the code for these acquired technologies from scratch, meaning clients can spend less time integrating applications or worrying about customer service, thus saving time and money, Dominguez says. The most recent acquisitions allow Sprinklr to tailor its services to some of its most prominent clients. Little Bird, for example, helps brands discover top influencers who can promote a company by word of mouth.

As for the future, business spending on social media is expected to reach $27.4 billion by 2020, according to Forrester Research. That includes in-feed and out-of-feed ads on social networks as well as agency fees and technology spending. If that market projection proves accurate, it represents a 122% surge from the $12.3 billion spent in 2015. Until then, Sprinklr is patiently waiting.

“Our greatest risk is that we’re looking at the world in a future-backwards way,” Dominguez says. Although Sprinklr already calls half of all *Fortune* 50 companies clients, there remains a learning curve when teaching prospective patrons the value of leveraging social data. In fact, many companies are just not ready to take the plunge.

“We spend an inordinate amount of time educating and showing folks what the new world will look like,” Dominguez says. “We know where the future is and we’re helping clients get there.” **SEAN ALLOCCA**

OOMNITZA

Tracker of ‘Things’

Most vendors of IT management services focus mainly on “things” that by now are considered at least a generation or more old: desktop computers, laptops, cell phones, and servers.

Oomnitza, which raised a modest $2.3 million of funding in 2014 and since then has grown quickly, has a software-as-a-service subscription offering flexible enough to manage a lot more than laptops and cell phones: its product manages the sensors and other new-age capital equipment that make up the Internet of Things.

Oomnitza

Product category: IT asset management software
Year founded: 2012
Headquarters: San Francisco
Employees: 20

Arthur Lozinski, CEO of Oomnitza

One Oomnitza client, for example, provides geospatial information tools; Oomnitza manages its lidar (Light Detection and Ranging) aerial mapping systems. Another customer offers turnkey systems for outfitting trade shows with equipment. Oomnitza also manages prototype self-driving cars for an automaker, and Internet-powered information kiosks for a city government. It even works with a major brewer that installs sensors in its kegs, taps, and refrigeration units.

How can a software program be that flexible? “A server, a self-driving car, and lidar equipment seem very different from the outside,” says Oomnitza CEO Arthur Lozinski. “But when you think about managing them they are quite similar, because they go through similar steps.”

That’s a reference to the essence of IT asset management. Oomnitza’s software tracks the lifecycle of those

Sprinklr office photo courtesy Glassdoor; all others courtesy the companies

Oomnitza manages prototype self-driving cars for an automaker and Internet-powered information kiosks for a city government. It even works with a major brewer that installs sensors in its kegs, taps, and refrigeration units.

devices and objects—from the time they're budgeted pre-purchase, all the way to archiving the data generated by obsolete assets earmarked for destruction.

The software allows customers to track where assets are, who has control of them, whether they're working or need maintenance, and so on. The software also allows users to run reports on any of those variables.

Oomnitza started serving its first 10 customers in 2014. It landed them through cold-calling. "Our first customer management system consisted of printed-out company logos along with the names of the CIOs and IT managers we wanted to talk to at those companies," says Lozinski. "Six months later we had an entire wall covered with logos of customers we had signed on."

The company has done no marketing to date, and no analysts have written reports on it. It relies on a proactive sales approach and word of mouth. "Lots of people come to us because they have a friend at a company that uses us, or they used us at a previous company," the CEO says.

While Oomnitza has moved far beyond simply tracking computers and cell phones, its success in that area is a harbinger of continued broader growth. "Somehow they cracked the code on how to handle those devices and made it easy for companies to manage the assets," says Timothy Chou, a former Oracle executive who teaches cloud computing at Stanford University. (He also owns shares in Oomnitza and is a frequent contributor to *CFO*.)

"And," Chou continues, "many future [technologies] will consist of a bunch of sensors and actuators with cellphone-like technology sitting in the middle. The reason I say that is, just look at a cell phone: it's a computer that has maybe a dozen sensors and it already connects to three networks—Bluetooth, 3G or 4G, and WiFi."

Given that General Electric, for example, has poured more than $1 billion into developing an IoT management business, why should we pay attention to a small, young company like Oomnitza? Because such companies often bring a new way of looking at business and create disruptive technology.

"If only large players could enter markets," Chou says, "Google wouldn't exist. Microsoft had way more money and engineers than everyone else. Oomnitza has built modern software from the ground up that offers unique advantages in flexibility and ease of deployment." **D.M.**

WORKIVA

CONTROLS, COMPLIANCE, AND COLLABORATION

The only publicly held company in *CFO*'s tech watchlist, Workiva has products that are as essential to the offices of the CFO and the controller as oxygen is.

The company's Wdesk cloud-based platform features proprietary word processing, spreadsheet, and presentation applications built on top of a data management engine. But don't mistake Wdesk for a desktop application suite, because it's in a whole other league. The platform offers synchronized data, controlled collaboration, granular permissions, and a full audit trail. Companies trust it for reporting to the Securities and Exchange Commission, managing audits, and complying with Sarbanes-Oxley.

Workiva

Product category: Cloud-based financial reporting
Year founded: 2008
Headquarters: Ames, Iowa
Employees: 1,170

Stuart Miller, CFO of Workiva

Stuart Miller, CFO of Workiva, points to what differentiates the platform: it's "massively collaborative" (several hundred people can work on the same document); it has a full audit trail (changes are perpetually time-stamped); and it features a live-linking capability, around which Workiva has built a patent.

"I can open up my [earnings] press release, my script for the [earnings] call, and my board presentation and see numbers that are all driven by the same spreadsheet, and they are linked," Miller says. "If I change a number in the spreadsheet it changes in all the other documents. It reduces ticking and tying and the chance of making an error."

Miller says CFOs like that Workiva's platform "brings order to the chaos" of financial reporting, but the people who really "feel the pain" and thus understand the complete benefits of the platform are the finance and compliance team members assembling the reports. Workiva started its business by calling on business users and allowing them to sign quarterly contracts. But once several groups within an organization adopt Wdesk, its IT department contacts Workiva. "The message from IT is that you need to improve your user management so I can add thousands of people instead of hundreds," Miller says.

Once Workiva is deployed, companies are saving money through lower costs of compliance. According to a Forrester Research case study, a large auto parts retailer using the Wdesk SOX solution to streamline its monitoring and testing


Workiva's headquarters

of internal controls slashed the time to finalize a control from two weeks to two days and saved 240 hours annually on SOX certifications. The net present value per user over a three-year horizon was more than $6,000.

Miller says Workiva has a 50% market share among accelerated SEC filers. It also has 480 customers for its SOX product. While Workiva started out in 2008 taking business from financial printers, its ambitions are broader now. It is being adopted by customers for auditing, risk and compliance (including Dodd-Frank stress testing), and operations (managing and tracking key performance indicators). For auditing, finance teams use the workflow capability for task assignments and a digital support binder to attach substantiating documents for auditors.

Workiva is also working on a data application programming interface to enterprise resource planning systems. "If you run analytics outside of ERP, you have to get that data out. Companies have been dumping it into Excel spreadsheets, but the data is too large for Excel spreadsheets," says Miller, forcing companies to export it piecemeal and reassemble it. Workiva's API will allow users to dump an entire trial balance into the Wdesk cloud-based spreadsheet.

Workiva spends about 30% of revenue on R&D, but it's also trying to meet Wall Street's expectations. The $200 million company is posting quarterly net losses, and its sales growth slowed in 2016, to 23%. According to analysts, though, non-SEC use cases of Workiva's platform could constitute half of the company's bookings in 2017. **V.R.**

SECURITYSCORECARD

Keeping Score

The spark for SecurityScorecard, a firm that rates companies based on their cyber defenses, was kindled when Aleksandr Yampolskiy suddenly realized that he could be fired.

That fact dawned on Yampolskiy when he was chief information security officer of Gilt Groupe. The shopping website was considering doing business with a firm that analyzed e-commerce to unearth potential fraud.

Under the arrangement, Gilt Groupe would have had to share all of its customer data with the analytics firm. As part of the vetting process, Yampolskiy's team looked at a copy of the 30-page questionnaire that the analytics firm had filled out as part of Gilt Groupe's security audit. "It looked great, and they answered all the questions positively," he recalls.

SecurityScorecard

Product category: Security risk ratings
Year founded: 2013
Headquarters: New York
Employees: 100+


Aleksandr Yampolskiy, SecurityScorecard CEO

But when he asked his team to "poke around" publicly available data to find out about the company's security vulnerabilities, "at the last minute we found that there was unencrypted credit card data, [which meant] that we could lose all our customer information if we partnered with them."

Previously, Yampolskiy believed that if you worked hard and did a good job, then you should be promoted, regardless of outcomes based on external circumstances. But after his team unearthed the credit card risk, "for the first time I felt that if one of the cloud services that I used got hacked, then I could be fired," he said. That led him to ask himself a question: To reduce career risks like the one he'd faced, was it possible to rate the security risks of vendors in the way that credit rating agencies rate borrowers?

The result was SecurityScorecard. Founded in 2013 by Yampolskiy and Sam Kassoumeh, the former head of security and compliance at Gilt Groupe, the software-as-a-service provider collects "thousands of signals every second" regarding the cybersecurity of companies.

After gathering that data via a proprietary search engine and subscription services, the firm then assigns a company a letter grade from A to F. In language that's a bit thick with tech jargon, the firm's website gives an overview of the sources its search engine scans: "malware analysis pipelines, monitored hacker chatter crawlers, honeypot/sinkhole infrastructures, vulnerability cadence checkers, and deep social engineering sensors."

The idea of the grades is to give CFOs and security professionals a quick way to limit their employers' exposures to vulnerable vendors. "They can do business only with those companies they believe can do a good job in maintaining the security of data," Yampolskiy says. They can also limit their relationships with vendors that have weak cybersecurity practices or avoid them altogether.

Workiva headquarters photo courtesy FEH Design; all others courtesy the companies

Although the cybersecurity-rating market is in its infancy, competition is picking up. SecurityScorecard's prime rival, BitSight, was launched two years earlier and appears to have an equally good reputation for the accuracy of its grades. Last June, FICO, the well-known credit score provider, signaled its entry into the business with the acquisition of QuadMetrics, a firm that uses predictive analytics to rate an organization's cyber defenses.

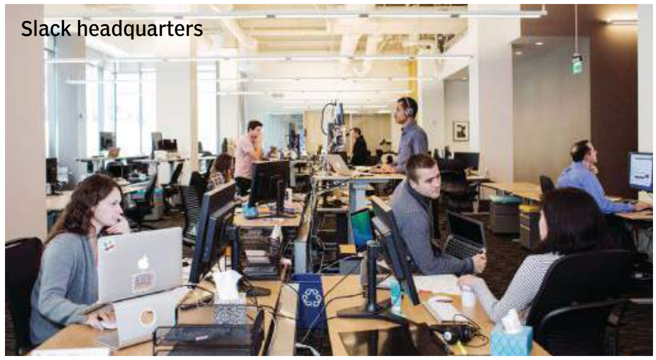
CFOs "can do business only with those companies they believe can do a good job in maintaining the security of data," says Yampolskiy.

For its part, SecurityScorecard has been making impressive strides of late. In 2016, the firm secured $20 million in funding from GV (formerly Google Ventures) to go with the $12.5 million provided by Sequoia Capital the prior year. Early in 2017, it announced two efforts that could boost its sales and marketing. In January, it launched a channel partner program aimed at resellers that can find new markets for its services. And in February the firm announced that it was launching Malware Grader, a free security rating tool built on its broader platform.

Given their informational tight-fistedness, it's almost impossible to confirm the competitive claims of firms in the cyber ratings space. SecurityScorecard, at any rate, touts a big advantage in the scope of its ratings. "We have over 100,000 companies that we rate on a daily basis. Nobody else has that," Yampolskiy says. **D.M.K.**

SLACK

YOU HAVEN'T GOT MAIL


Slack headquarters

For a company attempting the almost impossible feat of toppling traditional email platforms, the enterprise-messaging company Slack is off to a capable start. The San Francisco–based startup launched with only 16,000 users in February 2014, but at the time it raised $200 million in April 2016 it was valued at nearly $4 billion.

In truth, Slack has grown so explosively it's probably better suited to a unicorns-likely-to-price list. The company now claims 77 *Fortune* 100 companies as clients. Slack also made some waves late last year by partnering with more mature companies like Google and IBM—moves that could continue to fuel its meteoric growth.

Slack's secret is its simplicity. The platform lets users keep track of their messages by organizing them into channels. Instead of sending individual emails that get lost in inboxes, users can communicate directly with colleagues in real time. The conversations are searchable and highly transparent, although they can also be private. The company even rolled out voice and video chatting to users last year. According to Slack, its plug-ins, including popular ones for Trello, Skype, and Dropbox, are downloaded 415,000 times each month, making it one of the fastest-growing enterprise-messaging companies.

Slack

Product category: Team-based collaboration
Year founded: 2009
Headquarters: San Francisco
Employees: 650


Stewart Butterfield, CEO and co-founder of Slack

But Slack's simplicity doesn't stop at messaging. The platform also allows users to share files by dragging them from the desktop and dropping them directly into the Slack app. It's that efficiency and integration that Slack is betting on to boost growth in 2017.

In December, the company announced a partnership with Google to incorporate some of the best-loved Google services into its platform. Millions of Google Drive files are shared on Slack each month, the company said. But, previously, requests to access and edit those files still had to pass through traditional venues, namely email. The partnership integrates those popular Google services into Slack's app.

Slack also teamed up with IBM and its cognitive-computing platform, Watson. Slack hopes the artificial intelligence system will improve troubleshooting on its customer service platform by learning what answers work best for its users. "We want Slack to become better and smarter the more you use it," said CEO and co-founder Stewart Butterfield, who previously co-founded the photo-sharing website Flickr.

Finally, in January 2017 Slack launched Enterprise Grid, a version geared toward large enterprises that features an unlimited number of workspaces and gives IT administrators the ability to add new layers of security and identity management. At launch, Snap also announced a portfolio of bots to

Slack headquarters photo, Talia Herman; both images courtesy the company integrate with SAP services, including a Concur travel and expense bot and a bot that connects with the HANA cloud platform.

With seven offices, including locations in Dublin, London, and Melbourne, Slack is hoping to expand its influence beyond the U.S. There are about 5 million daily active users on Slack, 1.5 million of whom pay, and the company is looking for more. Almost half of Slack's daily active users are from countries outside North America, mostly in the UK, Japan, and Germany.

In posts on peer-to-peer software review site G2 Crowd, users say they like Slack's integration with other apps and its usability, especially the ability to share files and pin important messages. But some users also consider Slack expensive, at $6.67 per month per active user (although there is a free version).

So, is Slack the answer to traditional email services? According to a survey conducted by the company, Slack users cut back on company emails by 50% when using the product. While that seems like it could take a significant chunk out of traditional email services, only time will tell if Slack will deliver. **S.A.**

DOCUSIGN

Document Dump

"A tremendous number of activities are still burdened by paper and analog processes, and DocuSign is well-positioned to help companies digitize them."

» **Craig Le Clair,** Forrester Research analyst

The global market for e-signature technology currently tops out at about $500 million annually, according to some estimates. So how has DocuSign, even though it's the market leader with an estimated 30% to 40% share, managed to pocket $500 million in funding? What justifies the unicorn's $3 billion valuation? In large part it's about the potential to further reduce companies' reliance on paper documents and thereby trigger large efficiencies and cost savings.

DocuSign

Product category: Electronic signatures
Year founded: 2003
Headquarters: San Francisco
Employees: 2,000

Daniel Springer, CEO of DocuSign

E-signature has been a fast-growing niche for several years, and DocuSign says the volume of transactions it facilitated increased by 70% in 2016 alone. But that pace will inevitably wind down, so the company is forging ahead with an agenda to take on management of a much broader array of digital transactions.

"A tremendous number of business activities are still burdened by paper and analog processes, and DocuSign is well-positioned to help companies digitize them," says Forrester Research analyst Craig Le Clair.

Daniel Singer, an experienced public-company CEO, came aboard as DocuSign's chief executive in January, replacing Keith Krach, who remains the company's chairman. Wall Street has been anticipating an IPO, and the only thing standing in the way is Singer's wish to get comfortable with the predictability of earnings, he says.

"The core things required for [software-as-a-service] companies to go public are there—we have hundreds of millions of dollars in revenue and strong growth," Singer tells *CFO*.

Le Clair says going public likely will help DocuSign. While the company has made a good case to analysts that it's not burning through much of its cash and is financially sound, he notes, the market won't truly know where the company stands until an IPO. "Going public means their financials will be transparent, which would relieve any fears in those areas," the analyst says.

An IPO also would bring a cash infusion that could help DocuSign make acquisitions that would speed its transformation into a more well-rounded transaction management firm, according to Le Clair.

Singer, for his part, envisions that growth will stem more from the efforts of the company's engineering team. "We want primarily to be a builder rather than a buyer," he says.

Transaction management use cases, all driven by the same platform DocuSign uses to provide e-signature capabilities, already are expanding. Examples of moving away from paper-based processes, from DocuSign's client base, include banks digitizing approvals for internal transactions and purchase orders; human-resources departments sending offer letters to job candidates; and sales departments more securely managing compensation programs.

A big part of the push is adding workflow capabilities around payments. That's not a new technological capability, but it fits well with DocuSign's established business.

"We're not going to be a payments company per se, taking a piece of transactions," says Singer. "But the first thing

Top photo, Sarah Rice; both images courtesy Docusign people tend to do after signing a contract is pay for what they just purchased. It's a natural extension. So we're helping companies leverage the top payment protocols to integrate payments on top of transactions."

In particular, there may be great opportunities for DocuSign in regulated industries—even though most regulations, other than some recently approved ones, require a physical paper trail to establish compliance.

"It's not that there's an actual need for paper," says Singer, "it's just that regulations were written that way and people don't want to take a regulatory risk. But one by one we're seeing banks looking at this and saying it makes sense for their customers and for their business. There should be plenty of opportunity." D.M.

NEO TECHNOLOGY

WHAT'S THE CONNECTION?

As with most tech companies, Neo Technology was founded when a technologist got frustrated. In this case, Emil Eifrem, Neo Technology's CEO, was at a small startup in Sweden trying to build a content management system on top of a relational database. Specifically, Eifrem needed to represent a complex pricing model for stock photos. "We spent a majority of our time fighting against the relational database," says Eifrem. "The shape of our data was a mismatch with its building blocks."

Neo Technology

Product category: Graph database
Year founded: 2007
Headquarters: San Mateo, Calif.
Employees: 130

Emil Eifrem, CEO of Neo Technology

Many years later, Neo Technology is the creator of a leading open-source "graph" database, called Neo4j, that has been adopted in financial services, retail, government, and telecommunications. The product and its tools are used for real-time pricing, online product and service recommendations, fraud detection, and enterprise search. In November 2016, Neo Technology raised $36 million in a series D venture capital funding. According to Forrester Research, one-quarter of enterprises will be using graph databases by 2017. Gartner, on the other hand, predicts that over 70% of leading companies will pilot test a graph database by 2018.

What is a graph, or graph-oriented, database? Essentially, it's a database that uses graph theory to store, map, and query relationships. While traditional relational databases store data in rows and columns, graph databases plot data points and the connections between them as objects or nodes on a graph.

"There's a lot of data that fits into rows and columns," Eifrem explains. "But with the advent of the Internet, and connected devices, data is not always that simple." Graph databases enable organizations to understand the value of connections, influences, and relationships in data.

"There's a lot of data that fits into rows and columns," Eifrem explains. "But with the advent of the Internet, and connected devices, data is not always that simple."

A commonly cited application is a social networking company using a graph database to map out the connections of its users. But there are many other use cases, including online purchase recommendation engines for retailers and fraud detection for financial institutions. Supply chain analysis for some of the biggest food brands, by which they can trace a product back to the farm it originally came from, is another use case, says Eifrem.

The most widely publicized use of Neo Technology's product was the Panama Papers—the leaked confidential documents of a Panama-based law firm that revealed the secretive offshore companies used by the rich and powerful to hide wealth and evade taxes. Journalists used Neo4j to connect the dots in the 11.5 million documents and link individuals to offshore accounts.

The Panama Papers raised awareness of graph databases, but so has the entrée of SAP, Microsoft, and Oracle into the space—all of them have announced graph database products. Those announcements were one of the reasons Neo Technology accepted $36 million in funding last year. "We have a three- to-five-year head start," says Eifrem, "but they are big companies and can throw a lot of money at this."

Still, with 100 or more organizations using Neo4j in mission-critical systems, analysts see Neo Technology as the leader. Noel Yuhanna, a principal analyst at Forrester, says Neo's product is different because it uses a native graph model—data is stored, processed, and accessed in graph format. Larger vendors' offerings are not necessarily native. Being native, Neo's product is faster and more secure. "And it can scale very well—customers are running billions of connections with Neo," Yuhanna adds.

It's no surprise, then, that eBay, Cisco Systems, Novartis, Orange, Marriott International, and UBS are using Neo4j.

As Neo Technology's website notes, "Your data volume will *definitely* increase in the future, but what's going to increase at an even faster clip is the *connections* (or relationships) between your data." And, as Eifrem once found out, relational databases don't handle relationships well. V.R.

Courtesy the companies

10 to Keep An Eye On

THESE COMPANIES HOPE TO BE MAJOR DISRUPTORS IN KEY ENTERPRISE INFORMATION TECHNOLOGY MARKETS.

1. Zuora

CATEGORY: Subscription management platform

Pick your adjective for the subscription-based business model: booming, sizzling, skyrocketing, exploding. Zuora is in the heart of the action as a provider (a subscription-based one, of course) of billing and finance services for such businesses. The company has pocketed more than 800 customers, with potential new ones being formed every day.

2. Reckon Point

CATEGORY: Indoor positioning

Founded in 2015, Reckon Point uses WiFi and magnetic signals to create indoor maps that can track customers, assets, or employees within one meter of their exact location in real time. The system allows for a wide range of location-based services like enabling personalized ads to be displayed to customers moving within a space, or tracking patterns and trends in asset analytics that can optimize warehouse processes.

3. Atomiton

CATEGORY: IoT computing

It's early days for Atomiton. But then, Microsoft started out small, too, on its way to becoming the dominant maker of personal computer operating systems. Atomiton's "industrial Internet" software stack has already gained traction, with uses found in oil and gas, smart cities, and industrial automation. The company's intelligent architecture could propel it to a leadership position in optimizing the performance of companies' Internet-connected devices and products.

4. Rubrik

CATEGORY: Data backup and recovery

Data-backup and recovery technologies have weathered plenty of criticism for being either prohibitively expensive or difficult to use. Rubrik aims to counter that criticism with products that are neither. The company's cloud data management platform delivers data protection, search, analytics, and compliance using a hybrid cloud setup. In February 2017, the two-year-old company reported a $100 million annual revenue run rate after just six quarters of selling.

5. Adyen

CATEGORY: Online payment services

Adyen, based in the Netherlands, is the Rosetta stone of online payments. It provides merchant online services for accepting electronic payments by credit or debit card, bank transfer, and other means. Its online platform connects to 250 different payment methods, from Visa to WeChatPay. In February, the company reported transaction volume of $90 billion in 2016, an 80% year-over-year increase. It services 7 of the 10 largest Internet companies.

6. Aviso

CATEGORY: Sales forecasting and analytics

Gone is the gut. CFOs impatient with sales forecasts based on intuition can now allay their anxieties via data science. Founded in 2012, Aviso aims to help clients "crush the quarter" by using predictive analytics to prioritize which targets to go after. The company has raised $31 million to date and its customers include Apttus, HubSpot, Nutanix, Pandora, and Splunk.

7. Agari

CATEGORY: Email security

Although the presidential election is over, politically motivated email crime still claims headlines. Agari, a cybersecurity firm that aims to block sophisticated phishing attacks, expects the prominence of government hacking to spur burgeoning attacks against companies. Its cloud-based Email Trust platform identifies the true sender of emails. The $24 million in funding Agari picked up in 2016 should provide ample fuel to address the opportunity.

8. Veem

CATEGORY: Cross-border payments

Small businesses represent $6 trillion of the $25 trillion market in cross-border payments. But they pay $50 billion in fees due to an antiquated wire transfer system that is cumbersome to use and provides little visibility into the status of transfers, according to Veem (formerly Align Commerce). The company's multi-rail technology connects disparate parts of the international payments process, allowing SMBs to send and receive payments using only an email address.

9. Qlik Technologies

CATEGORY: Business intelligence

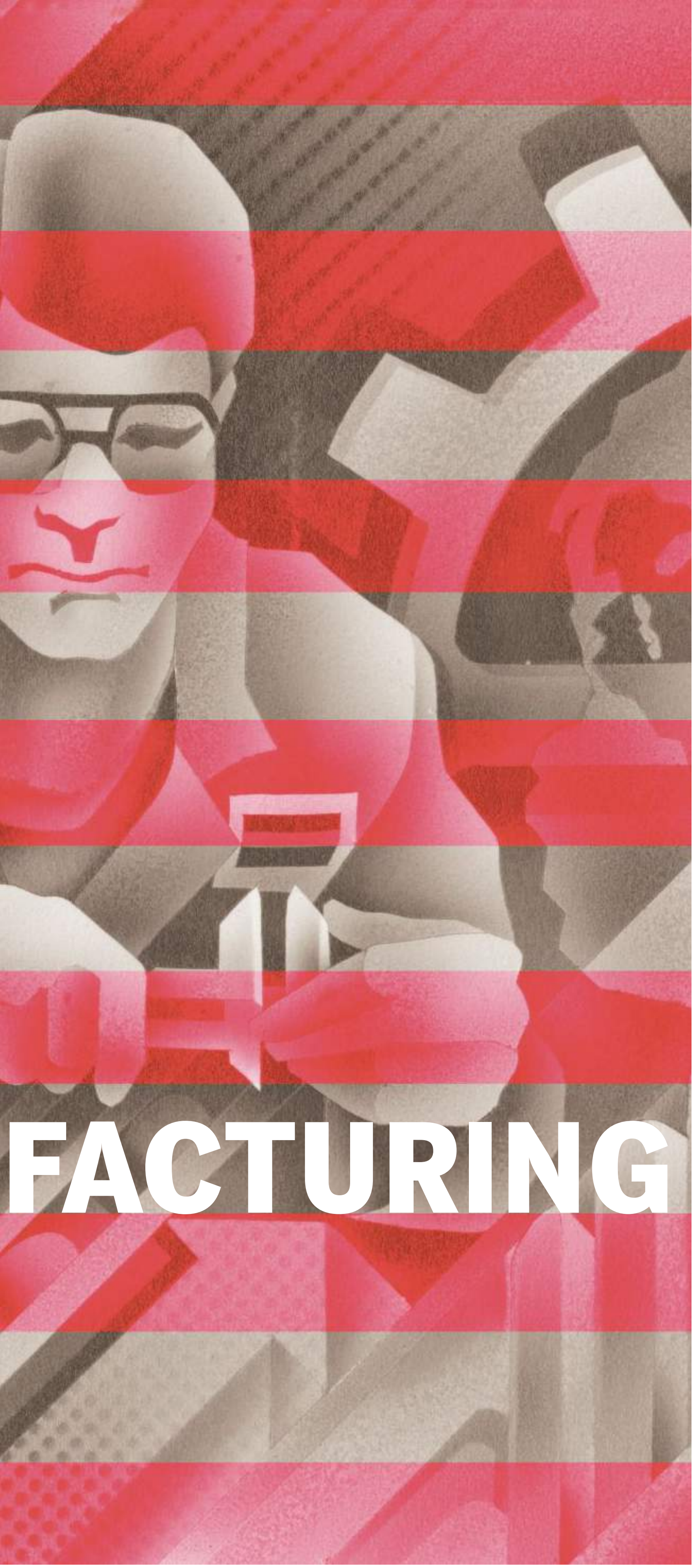
Qlik's portfolio of cloud-based and on-premise solutions changes basic Excel data and other information into visualizations and analyses that can be shared by teams across many types of devices. The company says the intuitive design of its tools enables users of all technical skill levels to quickly and easily create, manage, and collaborate. Qlik has 40,000 customers worldwide.

10. Zoom

CATEGORY: Videoconferencing

Is Zoom the answer to web-conferencing woes? Its service unifies cloud video conferencing, online meetings, group messaging, and conference-room solutions. The platform, which does not require a complex video infrastructure, is used to hold webinars and host conference-room meetings on large HD displays, and provides a range of other conferencing capabilities. Zoom was founded in 2011 and is valued at $1 billion.

GEARING UP FOR A MANU



FACTURING REVIVAL

Technology, political will, and a focus on the customer could lead to a rebirth of manufacturing in the United States.

BY RUSS BANHAM

Getty Images

“The question I always ask is, Will this project enhance the customer’s experience? ... Innovation is crucial, as long as it provides for a better customer experience.”

—Jim Macaulay, CFO, Marvin Windows and Doors

Ten years ago, American manufacturing was an oxymoron, as so much of what was sold by domestic manufacturers was produced outside the nation’s borders. This paradigm may now be altering, promising a new age for U.S. businesses that make things. How could manufacturing, a sector that has lost more than 35% of its jobs since 1979, return to its former glory?

A key factor in the change is President Donald Trump, who has pledged to return domestic factory jobs lost to foreign sources of cheap labor. The White House also seeks a reduction in the corporate income tax rate, wants to allow companies to be able to immediately deduct capital spending for tax purposes, and vows to peel back an assortment of regulations that Trump says put U.S. companies at a competitive disadvantage—all good news for American manufacturers.

At the same time, the U.S. economy is relatively strong. The stock market has posted more than $3 trillion in paper gains since the Presidential election, jobless claims are at a four-decade low, and business and consumer optimism are sunnier than Yuma, Arizona. Moreover, the much-watched ISM Manufacturing Report’s Purchasing Managers’ Index, which tracks movements in production, new orders, inventories, and employment, hit 57.7 in February, its highest level since October 2014.

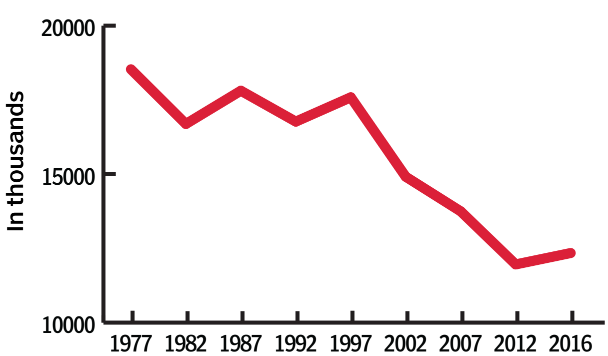
Last, but far from least, are the extraordinary efficiency and productivity enhancements offered to manufacturers by such remarkable technologies as robotics, 3-D printing, and smart factory equipment embedded with semiconductors and sensors.

Those various developments herald what analysts optimistically call the Fourth Industrial Revolution, following the three previous ones—the introductions of the power loom in 1784 and the automobile assembly line in 1913, and the move from analog electronic and mechanical devices to digital technology in the 1990s. “We’re much closer to the ability for manufacturers to create products nearer to the source and nearly on demand,” says Mark Patel, a partner in McKinsey & Co.’s advanced industries practice.

Manufacturing Employment Dwindles

Over a 40-year span, the number of workers employed by manufacturers has fallen by more than one third.

Total manufacturing sector employees, U.S.*



*As of December each year
Source: Bureau of Labor Statistics

GREASING THE ENGINE

Political pressure from the Trump administration is forcing companies to contemplate whether to manufacture on the home front. Several companies are bringing at least part of their production back to American shores—some in expectation that President Trump’s proposed tax and regulatory policies get implemented. Intel, for instance, announced a $7 billion investment in a new factory in Arizona that will create 3,000 jobs. GM is ponying up $1 billion to increase vehicle production domestically, and also plans to shift production elements from Mexico to Michigan, generating about 2,000 jobs. Competitor Fiat will invest $1 billion in plants in Michigan and Ohio, producing 2,000 jobs.

Foreign manufacturers are also planting stakes in the U.S. Foxconn, the large Taiwan-based contract manufacturing concern, plans to build a $7 billion plant making television displays on American shores. And German chemical company Bayer AG has promised the president that, if it gets the green light to merge with Monsanto, it will invest $8 billion in R&D domestically, maintain Monsanto’s

9,000-strong U.S. workforce, and create 3,000 new jobs.

Not every manufacturer is eager to relinquish overseas production, however. Milwaukee-based Rexnord recently finalized plans to close a ball bearings factory in Indianapolis and move the operation to Mexico, at a loss of some 350 U.S. jobs. Rexnord reportedly will pay Mexican machinists $3 per hour compared to the $25-per-hour rate paid to U.S. machinists.

But the resurgence of U.S. manufacturing is not just about the location of plants. For manufacturing CFOs entrusted with profitably allocating their organization's capital, there may be better areas in which to spend money, such as mergers and acquisitions, new equipment, smart technologies, worker training, and research and development. Leveraging automated production processes like 3-D additive and subtractive manufacturing allows for rapid prototyping. And smart factory equipment embedded with sensors that report on how machines are performing—their stresses and failures—maximizes maintenance and minimizes downtime.

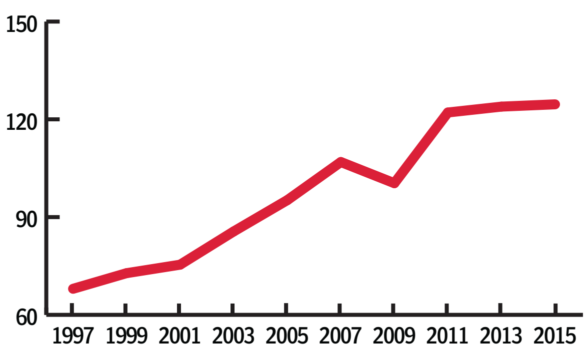
Obviously, such capital allocation decisions are not for the faint of heart. Feasting on today's state-of-the-art plants, equipment, and software may end up looking foolhardy if the global economy stagnates. "Many of the decisions to be made right now in manufacturing are financial in nature, making the role of the CFO more critical than ever," says Bob McCutcheon, PwC's industrial products leader. "This will require finance to have a deep understanding of all the moving parts."

To learn where some U.S. manufacturers are placing their bets, we interviewed the CFOs of Armstrong Flooring, Polaris Industries, and Marvin Windows and Doors. Each CFO laid out a different array of capital priorities, but they also spoke of a common goal: less focus on cost cutting, more attention to customers' needs. And that manufacturing renaissance? It may look different than what the president and other politicians envision.

Worker Efficiency Rises

While manufacturers employ fewer U.S. workers, their real output per worker has increased.

Manufacturing sector real output per person index*



*Output adjusted for inflation
Source: Federal Reserve Bank of St. Louis

At its Baker City, Ore., plant, Marvin Windows and Doors has installed computer-directed laser visualization machines that help minimize waste when cutting lumber.

MEASURE TWICE, CUT ONCE

Jim Macaulay, CFO of Marvin Windows and Doors, agrees that domestic manufacturing is at the threshold of a revival. "Certainly U.S. manufacturing is making a recovery, thanks to leaner manufacturing techniques and the wide deployment of productivity-enhancing technologies," he says.

Among the investments that Marvin has made are Computer Numerical Control (CNC) machines that are directed by computers to produce components on demand, reducing setup and inventory costs. For example, at a plant in Oregon that manufactures different-sized wood pieces, the company recently installed new laser visualization CNC machines that give operators a good look at a board before cutting it, to ensure "maximum yield"—the largest piece of wood possible from a single block of lumber.

The new CNC machines leverage X-ray technology to "see" inside the wood before it is cut, to visualize the knot and grain structure and the presence of defects. Previously, Marvin relied on the eyes of shop foremen to identify anomalies. "The computer inside the machine instantly

Courtesy Marvin Windows and Doors (2)

Polaris builds its three-wheel motorcycle, the Slingshot, in a new 600,000-square-foot manufacturing facility in Huntsville, Ala.

analyzes the visual image to decide the best places to cut, increasing yield while reducing human intervention," Macaulay says.

Marvin also has invested in embedding semiconductors and sensors inside factory equipment to calculate temperature, vibration, moisture, and other conditions. If a piece of equipment exceeds a particular temperature, the machine signals a possible problem for corrective actions. Information from the various sensing technologies flows to a central location where the measurements are displayed and monitored. "We're better able to anticipate [equipment] failures and preventively assign repairs at off-times to maintain production efficiencies," Macaulay says.

Since the machines are connected to each other in the Internet of Things, a problem often can be self-corrected—one machine automatically speeding up to allow another to slow down and cool off, obviating the possibility of one machine's failure bringing all production to a halt, he adds.

How does the CFO approach the many internal requests for funding that clutter his desk? "The question I always ask is, Will this project enhance the customer's experience?" says Macaulay. "Innovation is crucial, as long as it provides for a better customer experience. That's equally as important as a project's cost-reduction opportunities."

ENJOYING THE RIDE

Like many cost-conscious domestic manufacturers, Polaris Industries, maker of snowmobiles, Indian Motorcycles, and all-terrain vehicles, has a significant volume of its off-road vehicle production in Mexico. Aside from the cheaper cost of labor, the company maintains that vehicles made south of the border also are closer to those states that make up a sizable portion of the market for the company's products. But Polaris is also investing heavily in U.S. manufacturing. Last year the company christened a 600,000-square-foot, state-of-the art manufacturing facility in Huntsville, Alabama, where it builds its Ranger utility vehicle and the Slingshot three-wheel motorcycle. Once the factory is operating at capacity, the company expects to have 2,000 workers humming away. The multifunctional plant comprises vehicle assembly, chassis and body painting, welding, fabrication, and injection molding.

"Ten years ago, we tended to look for low-cost labor solutions, which the factory in Huntsville runs counter to," says Mike Speetzen, Polaris's executive vice president and CFO. "But we've more than made up the difference with lean manufacturing, highly skilled labor, and enhanced automation across the production lines."

The new plant features state-of-the-art robotics that use precise calibrations to improve engineering tolerances and manufacturing efficiency. "The mindset here has changed from cost reductions to investing money for a payoff down the road," Speetzen says.

In addition to spending $142 million on the Huntsville plant, Speetzen dug into the corporate wallet last year to acquire Transamerican Auto Parts, a manufacturer of Jeep and truck accessories with 170-plus retail stores, for $665 million. Speetzen also plans to increase the company's R&D investments this year by 15%: "Innovation is critical to our business. Seventy to eighty percent of our revenue has come from products introduced in the last three years," he says.

Polaris's capital allocation plans have also changed. "It used to be all about cost-cutting, but now we realize that you have to spend money to save money," he says. "The easy way out is to cut jobs or take costs out. We now look down the road at whether or not a particular [expenditure] will further our market position or the experiences of the riders of our vehicles," Speetzen says.

DIAMOND IN THE ROUGH

Fast-changing consumer preferences have compelled Armstrong Flooring, a maker of wood, vinyl, engineered stone, linoleum, and other flooring products, to continually invest in innovation. One example is the company's decision to expand its production capacity for making newer types of flooring like its LVT (luxury vinyl tile) line, a durable floor material composed of polymers, plasticizer, limestone, and cultured diamonds. The one-of-a-kind flooring can realistically simulate hardwood, ceramic tile, slate, or natural stone.

"The high-end segment of the flooring market is the highest growth market," says Jay Thompson, Armstrong Flooring's senior vice president and CFO. "It's such a fast growing category that it's cannibalizing a lot of traditional flooring products like carpets and wood."

To manufacture the new product, a second production line was built on an industrial brownfield site at Armstrong's Lancaster, Pa.–based plant. "We're very scrupulous [about] where we invest our capital," says Thompson. "But the current climate for manufacturing, given the president's assurances of tax and regulatory relief, is guiding us to lean forward to leverage more of our capital in profitable projects, of which the LVT plant is one."

Spun off as an independent public company last year from Armstrong World Industries, Armstrong Flooring is looking to turn around several years of sluggish growth. Capital spending of $37.6 million last year is pegged to increase to about $50 million this year, with roughly $20 million earmarked for productivity and innovation projects.

"We're investing in R&D, new product development, and marketing concepts to quickly move new products to market," says Thompson. "We also have 17 plants worldwide, 14 of them in the U.S., needing a fair amount of repair and maintenance spending to remain viable. On top of that, we're looking to drive greater efficiency, investing in automation to reduce waste and [increase] throughput."

Armstrong Flooring is another company that has returned to manufacturing in the U.S. from foreign locales. In 2015, the company closed its scraped engineered hardwood flooring facility in Kunshan, China, onshoring the manufacture in Somerset, Kentucky. The decision was driven by the increasing cost of freight and labor in China and the growing demand for the flooring type domestically. "It just makes sense to move production closer to where we actually sell a product," Thompson says.

Onshoring also eliminates several months in product lead time and improves Armstrong's response to those fast-changing consumer preferences. "Manufacturing domestically made this a smart move for the business, helping us to restore our wood business to an acceptable return on capital," Thompson says.

"The current climate for manufacturing ... is guiding us to lean forward to leverage more of our capital in profitable projects."

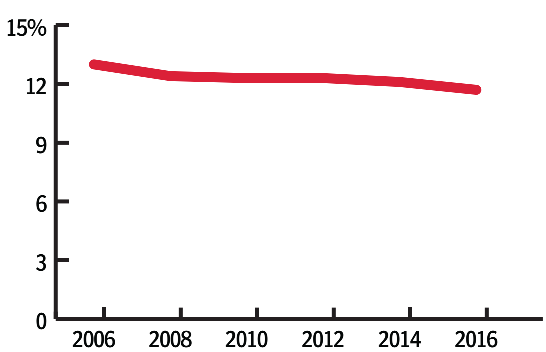
—Jay Thompson, CFO, Armstrong Flooring

Like other manufacturers, innovation is the fuel igniting Armstrong's capital allocation decisions. "We broadly lay out what we think our capital needs are going to be across three areas—the need to maintain current equipment, to drive efficiency in the business, and to accelerate new product development to be first to market with a new flooring," says Thompson. "That gives us a target level of spending in the strategic plan. We then build this out project by project."

Share of Economic Output Declines

While manufacturing still makes up a good portion of gross domestic product, its share of total output is slowly falling.

Manufacturing as a percentage of U.S. GDP



Source: Federal Reserve Bank of St. Louis

THE OBSTACLE

The three CFOs interviewed all expressed a degree of optimism that has been absent in manufacturing, recalling the excitement surrounding lean manufacturing, Six Sigma, and just-in-time production concepts that consumed manufacturing attention at the end of the last century. Shortly thereafter, though, the focus switched to conserving capital through labor cost arbitrage. Will this resurgence prove longer lasting?

The confluence of time-saving, efficiency-gaining, and information-rich technologies has definitely put the manufacturing sector back on track, leading to greater productivity and higher profit margins. But the investment choices by manufacturing companies are not necessarily going to boost the total number of jobs for minimally skilled U.S. workers. Indeed, the skilled worker that can operate highly automated equipment on the shop floor is the one that will be in demand. And those workers have proven tough to find in the U.S. in the last few years.

Manufacturers, perhaps helped by the government, will have to find a way to solve that problem. And policymakers will have to refrain from protectionist measures that could make U.S.–made products less appealing in international markets. If both of those conditions are satisfied, the future looks pretty darn good for Made in America. CFO

RUSS BANHAM IS THE AUTHOR OF 24 BOOKS AND A LONGTIME CONTRIBUTOR TO *CFO*.

Opposite, courtesy Polaris Industries; above, courtesy Armstrong Flooring

Insurance's Innovation Gap

Why corporations sometimes can't get the coverage they really need. By David M. Katz

When Soubhagya Parija moved from his job as risk strategy director at Walmart to the post of chief risk officer at the New York Power Authority in 2015, he learned that corporations "could do with more innovation from the insurance industry." ¶ Parija was having trouble finding coverage for the utility that was scaled to fit what he calls its unique exposure. The NYPA, after all, was a vastly different operation than Walmart. Think about the risk exposure at a retail company with a huge international footprint versus what a company in the utility industry faces, he says.

Unlike Walmart, the NYPA, which operates 16 power-generating facilities, doesn't keep large amounts of vulnerable customer data in its systems—and therefore shouldn't have its coverage priced on the same basis as the retailing giant, the risk officer contends.

"Even within the utility industry, the [NYPA's] exposure to cyber risk is very different from that of Con Ed, which has a huge number of retail customers [and as a result] much more danger than we have," he added, referring to Consolidated Edison, the New York–based energy company.

Yet when Parija began looking for cyber coverage, he found that commercial insurers were treating all utilities the same way. When applying for the insurance, his broker presented him with the standard questionnaires a number of insurers use. Those forms were based mainly on the cyber risk experiences of financial services businesses, he maintains.

"Their assumption was that cyber risk was just one monolithic exposure attributable to all companies, which is just not true," he adds.

What's more, Parija and others say that the problem isn't limited to cyber risks. Other complicated, fast-evolving threats such as damage to global supply chains and company reputations are met with the same cookie-cutter approach. Critics also portray the industry as lacking in the innovative juice needed to keep up with beneficial technological advances like the Internet of Things.

Fearful of taking a risk without sufficient data, carriers cling to the standard offerings like property, general liability, and directors' and officers' liability insurance, critics say. Central to such arguments is the notion that the industry is mired in "commoditization"—a tendency for insurers to package coverage before they have listened to clients about their particular needs.

Still, commercial insurers are not in business to lose money, their defenders argue. They're built on the idea of pooling large numbers of clients and using decades' worth of data to back their underwriting. While their customers crave innovation and customized underwriting, that involves more costs and lost time than insurers can reasonably absorb, some experts say.

"Commoditization does have the potential to slow innovation," acknowledges Andrew Bent, the Americas risk manager at Sage, a provider of accounting and payroll software. But "a commodity isn't necessarily bad," he says.

From the commercial insurance industry's perspective, "the key to commoditization is not being so narrow you can't write a meaningful policy," Bent adds. "But there has to be some basis on which to write a policy."

Crucible of Risk

Perhaps because there have been so many news stories involving cyber risk (the 2014 breach of 500 million Yahoo accounts, for example), the exposure has become something of a test of the insurance industry's ability to respond to fast-changing threats.

"One of the criticisms that the insurance industry's sometimes received is that it's too eager to commoditize a risk before that risk is totally understood," noted Ben Beeson, the cyber

Getty Images

risk practice leader of Lockton, an insurance broker, at a cyber risk conference last October.

Before 2016, some might well have argued that that was indeed the industry's approach to cyber risk, since it was narrowly focused on selling liability insurance to cover corporations for the theft of personally identifiable information and protected health information, Beeson noted.

"In 2016 we woke up to the fact that the consequences of the risk can be much broader than just the cost of handling people's personal data," he explained. Cyber risk "isn't just about data anymore" but also about business interruption risks like distributed denial-of-service attacks on servers and websites.

Despite the industry's growing awareness of the extent of cyber risk, however, the knowledge "is not—at least in the short-term—making life any easier for our clients," Beeson added.

Eric Dobkin, the risk manager of Merck, pointed to a fundamental gap between the nature of cyber risk and the industry's ability to help its customers cope with it. The risk "is evolving incredibly dynamically, and the industry is very deliberative," he observed at the conference.

As a result, when corporate risk officers seek to grasp how they can transfer risk from their companies' balance sheets to commercial insurers, they often face a confusing, immature insurance market. Companies often encounter "a jigsaw puzzle of insurance products that overlap in some areas and exclude in others" regarding cyber coverage, Dobkin said.

But the fault doesn't only lie with insurance sellers, at least one corporate buyer points out. Sage's Bent says: "We risk managers, as a group, have to get better at understanding interlocking [coverages]."

"Even within the utility industry, the [NYPA's] exposure to cyber risk is very different from that of Con Ed, which has a huge number of retail customers."

›› Soubhagya Parija, chief risk officer, New York Power Authority

Commercial insurance buyers need to understand that full protection against cyber risks often requires the placement of multiple lines of coverage that must fit together, he adds. For instance, a full menu of protection might include professional indemnity insurance; a legal liability policy to cover a company's software; crime coverage to protect against thefts engineered via company systems; and coverage for damage to a company's infrastructure caused by hacking.

In any event, "all of the pieces have to be joined up" to make sure all the risks are covered and that there is no costly overlap in coverages, according to Bent. "I think there's an onus on both sides," he says, referring to corporate buyers as well as commercial insurers.

Total Exposure

Insurers have to adjust to the idea that industries such as health care, life sciences, and financial services tend to have per-record data breach costs that are higher than other industries.

Average cost of data breach per lost or stolen record

Health care	$402
Life sciences	$301
Financial services	$264
Transportation	$247
Energy	$246
Education	$220
Retail	$200
Industrial	$186
Media	$177
Hospitality	$148
Public sector	$86

Source: IBM/Ponemon Institute Cost of Data Breach Study, June 2016

Narrowing the Gap

But when it comes to the innovation that could help solve the problems coverage fragmentation has spawned, there is a big gap between the expectations of customers and their insurers. That's the key takeaway from a survey on innovation in financial services that was released in January by Celent, a research and consulting firm.

The great divide is between how crucial innovation is to customers and how important it is to a financial services company's strategy, according to the survey of 194 financial services professionals and senior executives, 62% of whom came from insurance. While 82% of the respondents said that innovation was "critical" to meeting customer expectations, only 52% said that it was critical to company strategy. (See "Laggards Not Leaders," page 43.)

The percentages were reversed when the word "critical" was changed to "important": only 18% said that innovation was important to meeting customer expectations, while 43% said it was important when it came to hatching company strategy.

Yet that small difference in word choice can make all the difference in the world when it comes to the question of how much a commercial insurer commits itself to innovation, according to Mike Fitzgerald, a senior analyst at Celent.

"In the competition for resources and talent, if something's not critical, it really doesn't get done," he says.

Laggards Not Leaders

Financial services, which includes insurance companies, is perceived as less innovative than other industries.*

"Compared with other industries, financial services firms innovate ..."

Much better than other industries	1.5%
Better than other industries	17.1%
About the same as other industries	26.8%
Worse than other industries	51.5%
Much worse than other industries	3.1%

*Based on responses from 194 financial services professionals and senior executives
Source: Innovation in Financial Services Survey 2017, Celent

In a property-casualty insurance company, a commitment to innovation means setting up a dedicated innovation group within the organization, according to Fitzgerald. If the choice is between dedicating people and resources to such a unit or putting the resources behind an effort to tweak an existing policy form, innovation is "probably going to lose."

One big reason is that sustained innovation is inherently inefficient, requiring a great deal of testing and learning via experimentation. Many of the experiments will inevitably fail, Fitzgerald notes, producing costs that are unacceptable to most commercial insurers. And insurers have long trailed such leading innovators as the pharmaceutical and retail industries in corporate inventiveness, he adds.

Still, the gap between strategic objectives and customer desires seems to be narrowing considerably among insurers. For the first time in Celent's survey since it began in 2013, more than 50% of respondents indicated that innovation was "critical to executing company strategy." Even more impressive: in the 2013 survey only 26% deemed innovation critical.

Innovation doesn't have to come from established innovation groups, of course. To some industry players, it's better arrived at through direct contact with clients than in a lab-like environment. "As soon as you make it a central group, you lose that gritty connection with clients that innovation needs," says Eric Joost, head of global property and casualty for Willis Towers Watson, a big insurance broker. "If you're too far from client interaction, it's hard to quickly spot where innovation is needed."

Defining Innovation

Perhaps the most basic question for insurers is how to define innovation itself. To Celent's Fitzgerald, innovation boils down to "breaking trade-offs that are meaningful to a customer."

For example, a carrier is being innovative if it can undo the trade-off between price and quality, which holds that to get a better insurance policy you have to pay more. It doesn't mean tweaking it to get the price down by subtracting some of the coverage, he adds.

In some cases, innovation can mean eliminating the tradeoff that stipulates that the only way for a corporate insurance buyer to finance a risk is to buy a standardized insurance product. In that arrangement, while the insured may get some needed coverage, the insurance may not exactly fit the company's more complex needs. The New York Power Authority's Parija found himself in just such a situation when he tried to manage the utility's water-supply risk.

Seventy percent of the NYPA's energy capacity is hydroelectric power; therefore, the organization faces the huge risk of not having enough water to produce the power its customers are paying for, according to Parija, who noted that the exposure stems mainly from variable weather.

"Insurance companies have not been able to develop good analytical tools to really quantify the weather exposure that different companies have," he says, and coverage "continues to be expensive."

As a result, most power companies try to self-fund their weather risk. For its part, the NYPA is mostly self-insured and is in the process of looking into forming a captive insurance company to cover part of the risk. By retaining much of the risk itself, the utility will be able to lessen its premiums by only buying insurance to cover the remainder, he reasons.

Parija feels that, rather than functioning as commodity providers, "insurance companies really need to play the role of risk counsel" to help guide clients through the maze of funding perils like his company's weather exposure.

"Insurers really need to think of the program from their client's perspective. It's not always a matter of what's in the market and available to buy. It's 'what are the needs of the client?'" he says. To get to that place, it appears, insurers have a lot more innovating to do. CFO

Courtesy New York Power Authority

POTUS Primer: Kill the Tweets

The first-quarter Duke/*CFO* Business Outlook Survey finds strong criticism of the president's communications, but even stronger economic optimism among U.S. finance chiefs.

By Chris Schmidt

Senior finance executives in the United States are concerned that President Trump's off-the-cuff Twitter posts and public comments may affect business, specifically by causing market fluctuations and uncertainty. Finance chiefs also consider some of the president's signature policy and tax initiatives to be bad for business.

At the same time, though, U.S. finance chiefs report they're feeling more confident about economic growth than they have in more than a dozen years. Meanwhile, in other parts of the world, economic confidence had its ups and downs. Finance executives in Japan, Latin America, and Africa report feeling more confident in the macroeconomy, but those in Europe and Asia (except Japan) are less confident.

These findings are from the Duke University/*CFO* Magazine Global Business Outlook survey, which has been conducted for 84 consecutive quarters and gathers input from senior finance executives around the globe. The survey ended March 10.

THUMBS UP AND DOWN

U.S. participants weighed in on a variety of topics, and there were many points of disagreement with President Trump:

- 85% oppose reducing H1-B visas for highly skilled workers.
- 70% say the president should stick to prepared remarks during speeches.
- 68% favor retaining the current leadership at the Federal Reserve Bank.
- 67% say the president should stop using Twitter.
- 64% are against building a wall along the Mexican border.
- 58% say eliminating the debt interest deduction would be bad or very bad for the U.S. economy.
- 57% say that a substantial tariff on Chinese and Mexican goods would be bad or very bad for the U.S. economy.
- 55% say a border tax would be bad for business.

57%

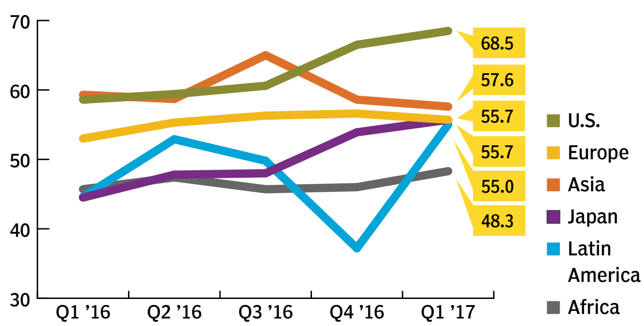
Percentage of CFOs who say that a substantial tariff on Chinese and Mexican goods would be bad for the U.S. economy

Points of agreement with the president included:

- 86% say that reducing the U.S. corporate income tax rate to as low as 20% would be good or very good for the economy.
- 75% say easing the repatriation of foreign profits will give the U.S. economy a boost.
- 75% say allowing companies to immediately deduct new investment will be beneficial.
- 74% say reducing the top personal income tax rate to 30% will be good or very good for business.
- 58% support the president's plan to restrict immigration from specific countries.

Economic Optimism Rises in Multiple Regions

Finance executives rate their optimism about their domestic or regional economy*



*On a scale of 0–100, with 0 being least optimistic

GLASS HALF FULL

The survey's U.S. optimism index jumped this quarter to 68.5 (on a 100-point scale), the highest level in 14 years and well above the long-run average of 60. That

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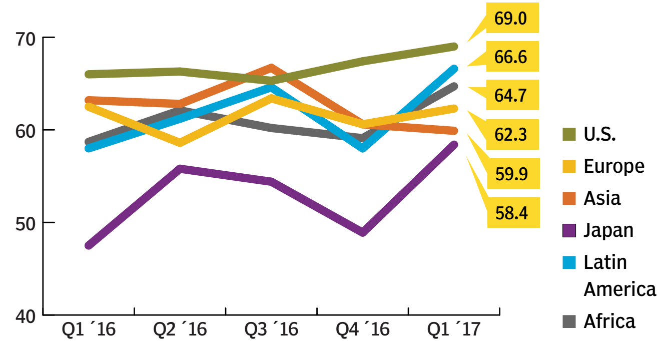
Company Confidence Strengthens Broadly

Finance executives rate their optimism about their own companies' financial prospects*



*On a scale of 0–100, with 0 being least optimistic

level of business optimism likely presages strong hiring and spending plans for U.S. companies in 2017.

The survey finds that 61% of U.S. firms plan to increase their payrolls in 2017, with an average increase of about 3% (and a median of 1%). Wage hikes are expected to average nearly 4%. CFOs project capital spending will climb 6% on average (and a median of 3%), a notable improvement from flat or negative spending plans for most of 2016.

Canadian optimism jumped to 67 this quarter, up from 63 last quarter. CFOs in Canada forecast that capital spending and hiring will each grow by about 3% in 2017. Still, 55% of Canadian finance chiefs think business regulations must be reduced to improve the business environment, and 48% say the same about improving infrastructure.

In Latin America, economic optimism rebounded from near-historic lows last quarter. Mexico returned to 61 this quarter and optimism increased in all surveyed countries except Peru (63). Other optimism ratings include Chile (47), Colombia (57), Brazil (58), and Argentina (70).

Averaged across Latin America, capital spending plans are projected to rise 2%. Full-time employment is expected to grow a modest 1%. The recent Odebrecht pay-to-play scandal made headlines and implicated government officials in Peru and Brazil; however, only about 15% of companies in those two countries say this caused them to reduce planned investment spending for 2017.

ASIA'S WORRIES

Business optimism in Asia averaged 57.6 this quarter, down 1 point. Across the region, optimism ranged from 45 in Singapore and 46 in Malaysia to 56 in Japan, 61 in China, and 64 in India. Concerns dampening Asian optimism include economic uncertainty and currency risk.

In addition, 70% of finance chiefs at companies in Asia say that lack of public trust in business and government is moderately or greatly harming the business environment. The problem is acute in certain countries: about 70% of senior finance executives in India and the Philippines say corruption is a significant problem holding back the economy, and 40% of finance chiefs in China say the judiciary must be fixed.

Many finance executives in Asia would also like to see business-friendly tax and regulation changes akin to what politicians are promising in the United States. Nearly 40% of senior finance executives in Asia identify the corporate tax system as needing reform, and 34% say the same for other kinds of government regulations.

Still, growth projections are healthy. Finance executives forecast capital spending increases of a median 7.5% across Asia, though by less than 2% in China. Employment and wages are expected to grow by about 5% in 2017, with wages increasing 2.5% in Japan versus 7.7% in China. One possible reason for the growth in hiring and pay: companies are running lean. Half of Asian CFOs, including two-thirds in Japan, say they lack the human capital necessary to respond rapidly to a sudden increase in demand.

EUROPEAN UNCERTAINTY

In Europe, region-wide business optimism fell by one point, to 55.7, in the first quarter. Optimism is particularly strong in the Netherlands (69) and Germany (65), and weakest in Italy (50). Optimism in France (55) and the United Kingdom (54) is moderate.

The top concerns in Europe include economic uncertainty, regulatory requirements, government policies, and attracting qualified employees. Survey takers say reducing business regulations is the top item that must be addressed to improve the business climate, followed closely by reducing political instability.

Across Europe, finance executives forecast wages will increase by 2% over the next year, and employment will remain essentially unchanged. Capital spending is expected to rise by a median 3.3%.

In Africa, economic optimism rose to 48.3, up from 46 last quarter. African finance executives are worried about economic uncertainty, government policies, currency risk, and, in Nigeria, inflation.

Two-thirds of senior finance executives in Africa say corruption is a significant problem that must be addressed to improve the business climate, and more than half say the same about infrastructure.

Capital spending in Africa is forecast to rise by a median 5%, and wages by 7%, over the next 12 months. However, with finance chiefs expecting a 4.5% increase in the prices of their firms' products, the largest of any region in the survey, a lot of that increase in capital spending and wages may be due to inflation. Indeed, finance executives project full-time employment will actually decrease in 2017. CFO

Source for all charts: Duke University/*CFO* Magazine Global Business Outlook Survey of finance and corporate executives. Responses for the current quarter include 363 from the U.S., 109 from Asia (outside of Japan), 30 from Japan, 185 from Europe, 154 from Latin America (including Mexico), and 53 from Africa.

Services With A (CFO) Smile

Finance must adapt to the hybrid, services-added business model. **By Josh Hyatt**

It's a blockbuster combination, even if it won't attract attention on the scale of big deals like the $65 billion Bayer-Monsanto merger or AT&T's prospective takeover of Time Warner. What combination are we speaking of? The blending of products and services into a hybrid business model as companies look for ways to differentiate themselves and to extend one-time transactions into long-lasting and profitable customer relationships.

The payoffs from a hybrid business model are easy to envision: plumper margins, clingier customers, and value-added offerings that incite a trickle, then a stampede, of customer interest. What's tougher to foresee are the delicate strategic maneuvers needed to control such a two-headed model.

Nonetheless, concerns such as product commoditization and customer capriciousness have led finance executives to begin reconfiguring their revenue streams. For product-based companies, the lure of adding services revenue can be tantalizing: Unlike products, services can be difficult for rivals to replicate. They can also provide a recurring revenue stream—especially welcome as sharp rivals start grinding away at a product's profit margin.

In a recent survey conducted by CFO Research, in collaboration with FinancialForce, 71% of senior finance executives reported that their companies derive half or more of their revenues from services, either directly or linked to product sales. More than half (55%) said services generate a higher percentage of revenues today than they did five years ago.

The survey's findings are based on 163 responses from senior finance executives at companies based in the United States and the UK, the former accounting for about two-thirds of survey-takers. Almost 65% of respondents hold the title of director of finance or above, with most serving as CFOs. Nearly three-quarters of respondents (72%) are employed at companies with revenue above $10 million and below $5 billion. The businesses represent a broad range of industries, with the highest proportions of respondents originating from manufacturing/industrial/automotive and financial services/real estate/insurance.

FIGURE 1

What do you believe are the most important motivations for introducing or expanding service-related revenues in your offerings?

Multiple responses allowed

71%

Percentage of finance executives who report that their companies derive half or more of their revenues from services.

When asked to indicate the most important motivations for introducing or expanding service-related revenues, many executives surveyed (39%) selected finding new sources of revenue and profit growth. One-quarter of respondents cited achieving a more stable recurring revenue stream (see Figure 1).

REACHING FOR THE CLOUD

For finance executives, technology has made it far less taxing to add services to company offerings, given the prevalence of cloud-based technology.

As services begin to drive growth, the finance function must take a leadership role in monitoring and improving customer satisfaction. For finance executives, the transition requires

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adopting a more customer-centric approach, tracking such metrics as customer acquisition cost and retention rate.

Survey respondents were asked if they agreed with the statement that they felt "substantial pressure" to change their finance team's mindset to be more customer-centric and focused on renewal revenue streams. Nineteen percent said they strongly agreed with that statement while 48% said they "somewhat" agreed.

Using data analytics—a skill that will need to be acquired, if it hasn't already been nurtured—finance executives can create and communicate a clear vision for decision-making within the new services-oriented framework. For CFOs, such responsibilities represent a welcome opportunity to focus on driving revenue growth rather than spearheading spending cuts, as has been their lot in recent years.

To support the strategy, the finance function also needs to develop technical know-how. Reporting service revenue—whether from maintenance or via subscriptions—requires skills distinct from accounting for product sales. For example, it's key to understand the subtle difference between bookings (representing customer commitments) and revenue (tallying received payments)—and to pinpoint the percentage of bookings that can be recognized as quarterly revenue.

Just under 30% of survey respondents said subscription-based services have become significantly more important over the past five years. Roughly the same number (27%) saw them as an important part of the company's growth plan over the next two years.

With products and services bundled together, the sales function's skills will need development as well. Instead of focusing on features and functionality—as is standard in selling a product—the value proposition relies on supplying customers with integrated "solutions." While product companies traditionally offer services such as product maintenance and repair, they may choose to expand into software/apps delivered as a service, managed services, and usage-based contracts.

GUARDIANS OF PROFITABILITY

Moving beyond the one-time buy—and into a subscription model—puts a premium on achieving customer satisfaction for one simple reason: Returning customers replenish profit margins. Happy customers are not only a source of recurring revenue but will also become effective advocates, a low-cost pipeline for acquiring customers.

The expansion into services requires finance executives to change the metrics they rely on to track the company's progress. Whether capturing recurring revenues via subscription or on an "as-a-service" basis, CFOs must be able to establish and monitor metrics—such as renewal rates—that will drive the company to improve its performance at managing the customer experience.

Asked how the CFO role should change to accommodate the services-added business model, nearly half of survey respondents said they are more likely to use new metrics (see Figure 2).

It's worth noting that 44% of finance executives chose "more involved in product/service pricing decisions"—indicating awareness of the central role their knowledge of customers plays in the evolving business model. To maximize services revenue, finance departments can use technology to segment customers, matching each group with appropriate (and, presumably, irresistible) service offerings. They can track customer acquisition and retention, monitoring the up-sell and cross-sell rates that are the lifeblood of profitable services businesses.

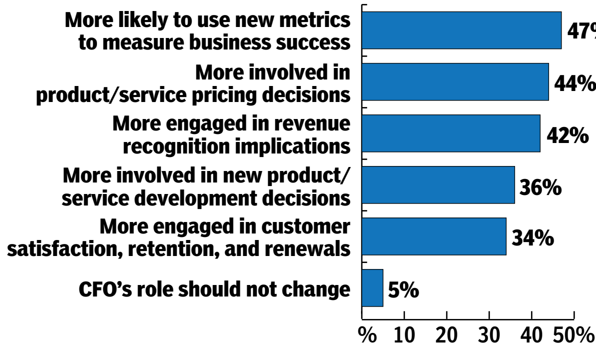
As their priorities undergo a transformation, CFOs will need to serve as role models, displaying their enhanced knowledge of customer satisfaction–related skills as an ongoing reminder to colleagues that the business is expanding in a distinctly different, and promising, strategic direction.

In their changed role, they'll serve as the embodiment of a new message: Improving the customer experience is a top priority. It will also be up to them to make sure that new services, no matter how creatively designed, are profitable.

For finance executives, that's one duty that endures—no matter how speedy the pace of innovation or how dizzying the rate at which business models mutate. Ever the crusader for growth, the CFO also remains the steadfast guardian of profitability. CFO

FIGURE 2

In your opinion, how should the role of the CFO or your finance leader change to support a new services business model?



Multiple responses allowed

THE QUIZ

The Great Divide

All the attention on corporate income taxes at the federal level means state corporate income taxes in the United States rarely get discussed. While some states are raising taxes to address budgetary crises, others are lowering tax rates to lure businesses to operate within their borders. The result? Corporations pay no income tax in some states and as much as 12% of income in others. How much do you know about state income taxes? Test your knowledge with our quiz.

1. Which state imposes the highest corporate tax flat rate, at 9.99%?

   A. Iowa
   B. Pennsylvania
   C. District of Columbia
   D. New Jersey

2. Which of the following states levies a top marginal corporate income tax rate of more than 9%?

   A. California
   B. New York
   C. Oregon
   D. Minnesota

3. Which of the following states did *not* reduce its corporate income tax rate in 2017?

   A. North Carolina
   B. New Mexico
   C. Arizona
   D. Nevada

4. Corporate income taxes generally account for what percentage of state tax collections?

   A. 5.4%
   B. 10.9%
   C. 16.0%
   D. 8.2%

5. Which states impose a gross receipts tax, which taxes the gross revenues of a company regardless of their source?

   A. New York, Michigan, and Colorado
   B. Texas, Virginia, and Washington
   C. Nevada, Illinois, and California
   D. All of the above

6. Which are the only two states that do not levy a corporate income or gross receipts tax?

   A. South Dakota and New Hampshire
   B. New Hampshire and Oregon
   C. South Dakota and Wyoming
   D. Wyoming and Nevada

Answers: 1-B; 2-D; 3-D; 4-A; 5-B; 6-C

Source: The Tax Foundation

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YOU CAN'T BUILD THE BUSINESS OF TOMORROW ON THE NETWORK OF YESTERDAY.

It's no secret: business has changed—in every way, for every business. Modern technologies have brought new opportunities and new challenges, like BYOD and a mobile workforce, that old networks just weren't built for. While demand on these networks has increased exponentially, networking costs have skyrocketed and IT budgets haven't kept pace.

Comcast Business Enterprise Solutions is a new kind of network, built for a new kind of business. With $4.5 billion invested in our national IP backbone and a suite of managed solutions, Comcast Business is committed to designing, building, implementing and managing a communications network customized to the needs of today's large, widely distributed enterprise.

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