CFO

SEPTEMBER 2017 | CFO.COM

DEBUNKING BUDGETING SEASON MYTHS

REPELLING RANSOMWARE ATTACKS

CFOs TO WATCH 2017

20 FINANCE CHIEFS WHO ARE DRIVING VALUE IN HOTLY CONTESTED MARKETS


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September 2017
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Up Front

By the Numbers

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FROM THE EDITOR

Sticking With It

Each summer, while compiling *CFO*'s annual CFOs to Watch list (page 27), talk inevitably turns to which of our picks will lose, resign, or retire from their job first. Obsolescence is an occupational hazard in print, but when covering chief financial officers, it's acute: the current average tenure of *Fortune* 500 and S&P 500 finance chiefs is 4.9 years, according to data from recruiting firm Crist Kolder.

Our record over the past three years is about what you would expect: of the 40 CFOs we chose for the honor in 2015 and 2016, about 10 are no longer with their companies. This summer every week seemed to bring news of another major CFO resignation, retirement, or hiring. A healthy stock market doesn't help: Rich valuations increase the value of executives' equity holdings, giving some the option of retiring, according to a recent story by deputy editor David McCann. And, in general, people (including CFOs) feel more confident about switching jobs or companies' when equity markets are booming.

Will this year's 20 honorees prove an exceptionally loyal bunch? Some already have. Carol Tomé has headed finance at The Home Depot for 16 years. Richard Galanti of Costco and Marc Hamburg of Berkshire Hathaway, straining credulity, have been CFOs of their respective companies since the S&P 500 index was in the 700-point range (adjusted for inflation).

For the most part, though, the CFOs we profile ascended to their position in the last few years. Why aren't more CFOs as loyal as Hamburg and Galanti? Myriad reasons. And who's to say it's better for a company if the same person heads finance for 20 years? A loyal CFO doesn't necessarily earn a company a premium on its shares.

However, it's going to take longer than 4.9 years to steer many of the companies in our profiles through the market and business-model disruptions they are facing. I would love to see some of these CFOs last long enough to see the job through. How they handle what lies ahead will make for some great stories.

Vincent Ryan
Editor-in-Chief

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EDITOR'S PICKS

FINANCE
Be sure to put this long-running event on your calendar: the **CFO Rising West Summit,** being held October 16-17 in San Francisco. Hear from the CFOs of Heineken, Playboy, and Shazam, and the director of F&A at Spotify. Learn more at The Innovation Enterprise website.

SALES
In **"The End-of-Quarter Sales Rush Costs Companies Money,"** Ken Krogue of InsideSales.com explains how the regular month-end sales push results in a lower sales win rate and poorer terms for the seller. Companies can kick the habit by focusing on the customer's timeline, not the salesperson's. Read more at the Harvard Business Review website.

PLANNING & ANALYSIS
What CFO doesn't want to get more out of his or her FP&A team? Mark your calendar for Argyle Executive Forum's **2017 FP&A Leadership Forum** on October 5 in Atlanta. Hear from the consumer business CFO of Georgia-Pacific, the director of finance at Arby's Restaurant Group, and the senior vice president of business transformation at Duke Energy. See the full speaker list on the Argyle website.

Mark Bennington


10,300 units produced daily.
11 production line managers.
8 critical quality control measures.
1 well-oiled manufacturing plant.
BETTER UNDERSTOOD

In **"Square-Off: What Corporate Tax Rate Is Best?,"** the most recent edition of our opinion forum on CFO.com, four debaters sounded off. Predictably, the economically and politically charged topic drew some heated comments. Some audience members figuratively rolled their eyes at what they took to be naïve statements by the Square-Off contributors.

"As the controller for the U.S. division of an EU company, it amazes me how myopic the discussion on corporate tax rates is," one wrote. "[Income] taxes are only one component of taxes that a corporation pays. For example, **our EU counterparts pay a much higher payroll tax** that goes to socialized health care, retirement, and even free college. That conversation doesn't even consider property tax rates."

He continued, referring to the theory of supply-side economist Arthur Laffer on the relationship between tax rates and the amount of revenue collected by governments, **"The Laffer Curve would be better renamed the Laugher Curve; trickle-down is a joke.** The volume of corporate cash sitting offshore, if repatriated at lower rates, would *not* primarily be used to fund capex and other pro-growth agendas. More likely it would be used to fund share repurchases and other shenanigans to prop up stock prices and payoffs to executives."

Another reader railed against the idea that foreign-sourced earnings being repatriated as a result of lower corporate taxes would improve the labor market: "We're supposed to trust that these companies, which have acknowledged they employ tax-avoidance schemes, will use their tax cuts to create jobs here? If we are in love with higher productivity, someone has to understand that translates to fewer, not more, jobs."

The very notion that companies effectively pay taxes at all was even questioned. "There is a very sad fact that relates to all of the debates regarding corporate taxes, which is **that corporations never have and never will be the real taxpayers....** 'Taxes' are 100% paid for by their customers. All costs are added into the price of their products."

The reader concluded, "The proper fix to this tax mess would be to eliminate corporate taxes and have [companies] become the primary tax collectors for all forms of government via sales taxes. These collected taxes would appear on their balance sheets as a current liability. Think about this. Once the real taxpayers are aware of their encumbrances, there could be a real revolution in the making."

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STATS OF THE MONTH

209,000
Increase in the number of U.S. jobs, seasonally adjusted*

$26.36
Average hourly earnings (private, nonfarm payrolls)

60.2%
Employment-to-population ratio

10.7%
Wage and salary workers who were members of labor unions

536,000
Number of "discouraged workers" not looking for work

*All statistics are for July 2017. Increase in jobs compared with June 2017. Sources: Bureau of Labor Statistics

TOPLINE

CASH MANAGEMENT

Finance Chiefs Pump Out Free Cash Flow

But big, public, nonfinancial companies are generating cash partly by cutting capital expenditures, a study finds. By David M. Katz

Last year's economic recovery helped U.S. companies improve brilliantly as generators of free cash flow. They did so mostly by tying up less cash in working capital, a new Georgia Tech study finds.

"CFOs as a group have once again demonstrated their ability to improve on the generation of cash," says Charles Mulford, an accounting professor at Georgia Tech and co-author of the study. "And they've done it across the board, in terms of the levers they have to pull and the metrics that we have to measure their performance."

In what they call "a notable increase" from the 2015 median of 3.56%, the authors report that the median "free cash profile" for 20 nonfinancial industries rose to 4.97% in 2016. Reported as a percentage of annual revenue, the profile "measures the capacity of a firm to generate free cash flow as it grows revenue," according to the study, which is based on the financial statements of 2,595 companies with assets greater than $100 million.

In simplest terms, for every dollar of sales growth, the median company can now be expected to throw off about 5 cents of free cash flow, says Mulford—a rise of a penny over last year's expectations for this year.

The 141-basis-point rise in the forward-looking metric stems from the companies' 2016 performance in four areas: operating cushion, operating working capital, capex, and taxes paid.

Defined as operating profit before non-cash depreciation and amortization, the median operating cushion grew by 44 basis points. In addition to last year's economic

recovery, Mulford attributes companies' surging profits to improvements in their ability to spawn higher gross margins and slash their selling, general, and administrative expenses.

To get the biggest cash flow bang out of their surging earnings, companies focused on their ability to remove as much working capital from their operations as possible, Mulford and co-author Mark Jacobson write. In 2016, the median company cut its operating working capital by 69 basis points, according to the report.

Largely, company reductions in working capital stemmed from cutting their accounts receivable, carrying less inventory, taking more time to pay their bills, and getting more of their revenues upfront, according to Mulford.

"It's a management objective to minimize the amount of money that is tied up in non–return-generating assets," he adds. "From that point of view, you want to minimize investment in receivables and inventory and maximize cash provided by payables and deferred revenue—and that's what [senior executives are] doing."

Besides the big boosts in operating cushion and working-capital performance, companies got a 17–basis-point bump in 2016 free cash flow by paying less taxes, according to the study.

Mulford is eager, however, to express concern that the rise in cash came partly through cutting capex by 12 basis points. Diminished investment in capital spending "is not what the U.S. economy needs," he says. "The capex that we lost during the Great Recession has not been replaced yet."

The lack of corporate investment in buying land and building and maintaining plants and equipment represents a short-term outlook, according to the professor. However, the study is based on last year's data, notes Mulford, and the years-long trend away from capex could abate this year.

The professor acknowledges that there's no standard definition of the free–cash-flow metric that forms the basis for his six-year-old study. Indeed, the Securities and Exchange Commission has warned 20 companies over the last six months about playing fast and loose with the metric.

"Every company can define it how it sees fit," Mulford says, noting that for some companies, it's simply synonymous with earnings before interest, taxes, depreciation, and amortization. "It's very easy to manipulate the number and make it look much better than it is." CFO

Diminished investment in capital spending "is not what the U.S. economy needs."

—Charles Mulford, accounting professor at Georgia Tech and co-author of the study

REGULATION

Microsoft Scales Accounting Mountain

The tech giant adopts the new revenue recognition and lease accounting standards early.

In a move only a company as massive as Microsoft would consider, the company plans to offer restated financial statements on October 1 to reflect its early adoption of the Financial Accounting Standards Board's two major new standards, covering revenue recognition and lease accounting. To date, only a handful of public companies have chosen to adopt even one of the new standards early.

Microsoft adopted both new standards as of July 1. Starting with the quarter ending September 30—Microsoft's first quarter of fiscal 2018—the company will issue financials that include restatements for 2016 and 2017, as required for early adopters of the rules.

The net effect of the changes on the company's income statements and balance sheets will be material, Microsoft reported. Revenues for 2017 and 2016 will rise about $6 billion each. Assets for those years will rise by about $9 billion, while liabilities will fall by about $6 billion and $2 billion, respectively. The company said the accounting changes wouldn't materially affect its cash-flow statements.

The reason for the moves, said Microsoft chief accounting officer Frank Brod during a special financial disclosure call with analysts, was "primarily to simplify the communication of our results by eliminating the need for non-GAAP revenue reporting."

Regarding revenue recognition, the biggest material change to the company's GAAP financials stems from Microsoft's 2015 decision to start booking Windows 10 original equipment manufacturer revenue up front. Since July of that year the company had been providing non-GAAP measures to exclude the impact from Windows 10 OEM revenue deferrals. (In a change from previous versions of Windows, Microsoft released Windows 10 as an ongoing "service" rather than issuing frequent updates.)

Companies must begin applying the new revenue recognition standard for annual reporting periods beginning after December 15, 2017. The new leasing standard is effective for all reporting periods beginning after December15, 2018. | D.M.K.

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HUMAN CAPITAL

Investors Call For 'People' Information

A large investor group has asked the Securities and Exchange Commission to adopt rules requiring public companies to disclose information about their human capital management policies, practices, and performance.

A rulemaking petition was filed by the Human Capital Management Coalition (HCMC), comprising 25 institutional investors with a collective $2.8 trillion in assets under management. The group did not define any specific metrics that it wants to be reported, instead offering nine broad categories of information deemed fundamental to human capital analysis as a starting point for dialogue (see "Nine Talking Points").

"The ability to effectively harness and apply the collective knowledge, skills, and experiences possessed by each individual in the workforce is essential to long-term value creation," says Meredith Miller, chief corporate governance officer for the UAW Retiree Medical Benefits Trust, which leads the HCMC.

At the same time, International Organization for Standardization (ISO) is working on a standard for human capital reporting and is expected to release it for public comment in the first half of 2018. It will be far more prescriptive than the HCMC petition, according to Jeff Higgins, a member of the ISO committee that's drawing up the standard.

"The ISO standard will have very specific recommendations in terms of metrics to be reported," says Higgins, a former CFO, who is now CEO of the Human Capital Management Institute.

Nine Talking Points

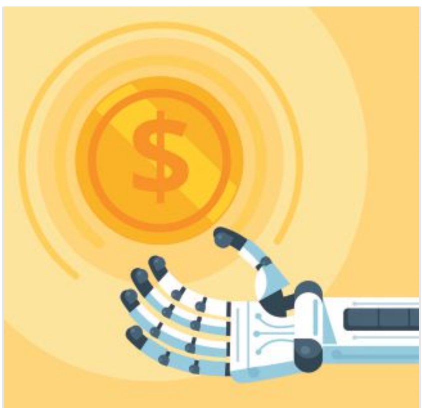
The Human Capital Management Coalition may seek disclosures in these areas related to companies' workforces:

- Demographics
- Stability
- Composition
- Skills and capabilities
- Culture and empowerment
- Health and safety
- Productivity
- Human rights
- Compensation and incentives

He further mused, "What if 150 countries adopt [the ISO standard]? Why would the United States not look at adopting it? While the SEC is never the first to any party, and I'm not particularly optimistic that it will do so under the current president, I think a lot of leading companies will act on their own." | **DAVID McCANN**

CAPITAL MARKETS

Crowdfunded Firm Lists On NYSE



Executing a historic initial public offering is one thing; keeping your company's shares from undergoing wild price swings is another.

On June 9, Myomo, a medical robotics firm, became the first issuer to raise capital under Regulation A+ of the JOBS Act and then list on the New York Stock Exchange. A Regulation A+ offering, nicknamed "IPO lite," allows a smaller private company to raise up to $50 million annually by selling company shares to both accredited investors and the general public. The sale to the public occurs through a crowdfunding campaign on a web portal. (Myomo's equity offering was conducted on Banq, an online investing platform run by TriPoint Global Equities.)

Myomo raised $5 million by selling 665,498 shares of its common stock to the public at $7.50 per share. A simultaneous offering to accredited investors—most of whom are early Myomo investors—raised an additional $2.9 million. Then, on June 12, Myomo shares began trading on the NYSE under the symbol, "MYO."

But since Myomo stock began trading, its price has been volatile, to say the least. MYO peaked at $23.20 on June 19. By press time on Aug. 23, the stock had tumbled all the way to $6.01.

Companies that use Regulation A+ really can't avoid listing on a stock exchange. The securities sold become freely tradable, so even if a company doesn't list on an exchange an investor could take his or her shares to a broker-dealer to sell. The broker-dealer would go to the Financial Industry Regulatory Authority and be granted a ticker symbol.

Broker-dealers and crowdfunding portals that have an interest in seeing Regulation A+ transactions take off are probably hoping that Myomo's share price stabilizes. As of December 2016, 165 companies had filed with the SEC to do a Regulation A+ offering, but the success stories have been few and far between. | **VINCENT RYAN**

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TAX

INVESTOR RELATIONS

Big No-No: Multiple Share Classes

Just as the IPO market revs up again, providers of stock market indices are taking a stand against new issuers that trample on shareholder voting rights.

Both S&P Dow Jones Indices and FTSE Russell said they will bar companies from some of their indices that either issue multiple classes of shares or have a minute percentage of voting rights in the hands of non-restricted shareholders. The actions come in the wake of IPOs of companies like Snap in which investors with unrestricted shares have few to no voting rights.

"This is a huge win for investors and a blow to companies that deny shareholders any say in how the company is run," said Ken Bertsch, executive director of the Council of Institutional Investors, in a statement. "Multi-class structures, especially those with non-voting shares, rob shareholders of the power to press for change when something goes wrong, which happens sooner or later at most, if not all, companies."

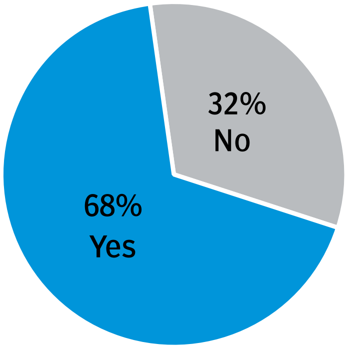
Starting in September, securities of companies with 5% or less of their voting rights in the hands of unrestricted shareholders will be ineligible for index inclusion. The hurdle will apply to all standard FTSE Russell indexes, including the Russell U.S. indexes, the FTSE Global Equity Index Series (GEIS), and non–cap-weighted indexes including the FTSE and Russell RAFITM Index Series. For existing constituents of those indices, the rule will take effect in September 2022.

As for S&P Dow Jones Indices, the S&P Composite 1500 and its component indices no longer add companies with multiple share-class structures. The change, which took effect August 1, includes the S&P 500, S&P MidCap 400, and the S&P SmallCap 600.

The new rules will assuredly affect some IPO plans, because inclusion in an index usually attracts money from passive funds that are trying to mimic an index's performance. | V.R.

Victory for Voting Rights

Do you agree with FTSE Russell's decision to implement a minimum threshold for voting rights held by non-restricted shareholders?



Source: FTSE Russell survey of index users and other stakeholders, July 2017

AUDITING

Nix Auditor Disclosure Rule?

The U.S. Chamber of Commerce strongly urged the Securities and Exchange Commission to reject a proposal that would require auditors to disclose their biggest concerns in their audits of public companies.

If the SEC approves the Public Company Accounting Oversight Board's proposed revision to auditor reporting, it "will lead to the disclosure of immaterial, confidential, and confusing information that will obfuscate disclosures for investors and make capital formation less efficient," David Hirschmann, CEO of the chamber's Center for Capital Markets Competitiveness, wrote to the SEC on August 11.

Yet the chamber has been the only organization to date that has written to the commission recommending that it reject the PCAOB's rule proposal, which was widely expected to pass muster with the SEC. In contrast, while audit firm BDO has concerns that auditor reporting of "critical audit matters" under the rule might spawn lawsuits against auditors, the firm implicitly accepted the rule in an August 15 letter to the SEC. BDO is the only major accounting firm to have written the SEC; a number of asset managers also support the measure.

Given the Trump administration's antiregulatory disposition, the chamber's request might get a warmer response than anticipated. Indeed, in a major policy speech on July 12, SEC chair Jay Clayton seemed to criticize the volume of financial disclosure rules. On the other hand, he has expressed support for the PCAOB itself. | D.M.K.

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STRATEGY

'Customer Obsession' Drives Results

Among 250 finance chiefs surveyed by Forrester Consulting in April 2017, 89% said they are prioritizing improvements to customer experience this year or will do so next year. An identical percentage said they are addressing rising customer expectations.

Forrester identified 36% of the participants' organizations as "customer-obsessed leaders." It defined them as prioritizing customer-focused initiatives this year and having experienced increased customer acquisition, retention, and satisfaction. Leaders were 39% more likely than "followers" to report year-over-year revenue increases of 15% or more in their most recent fiscal year.

Data analysis is, of course, a key to gaining insights on customers. Unfortunately, survey respondents reported challenges to achieving that mission.

The study suggests that CFOs should employ a five-point, data-driven operating model:

• **Executive Engagement** | Evaluate existing interaction and collaboration with executive peers in order to participate in and help lead customer obsession.

• **Strategic Contribution** | Rethink financial tracking and analytics capabilities to include insights and models that support and drive customer obsession.

• **Data Strategy** | Transition from traditional technology investments based on lower total cost of ownership, to investments that drive topline results of customer obsession.

• **Data Sourcing** | Realize that harvesting data from trusted sources—such as private, partner, proprietary, and public data—is central to moving from customer strategies based on perception to those based on fact.

• **Data and Analytic Capabilities** | Prioritize data and insights that better identify and predict opportunities, threats, and weaknesses of customer strategies in the market and the competition. | D.M.

RISK & COMPLIANCE

How to Curb the Costs Of a Data Breach

While not all data breaches can be prevented, the financial damage they cause can be contained with a few simple steps. By Rotem Iram

This year has brought to light an impressive litany of data breach victims, from video gaming forums to hotels to burrito shops to nearly every American voter. This is a direct continuation of the trend from 2016, when roughly 40% of breached companies had less than $100 million in revenue and only 11% had revenue greater than $1 billion. No matter what size you are, you're a target.

Even as CFOs are increasing IT security spend to prevent incidents, we know security is never guaranteed. It's now incumbent upon CFOs to take on cyber risk through the lens of damage mitigation, not just prevention.

CFOs, however, are often challenged when they try to understand the true cost drivers of a cyber incident. For example, in health care, we've seen one organization receive a regulatory fine of $750,000 for exposing 90,000 patient records and another a fine of $3.2 million for losing 2,400 records. This apparent irregularity of costs extends to all industries.

While the drivers of data breach costs can sometimes be unexpected, they are not random. Here are six things CFOs need to know about those drivers and how to keep their associated costs down:

• You can't lose what you don't have. Simply put, you can't lose a customer's (or employee's) data if you don't have it. While this may seem obvious, it's not trivial. In 2015, the health insurer Anthem and its affiliates served 69 million customers, yet when they were breached that year, they exposed 78 million records. The extra nine million records most likely came from former customers. Each of those individuals had to be notified and offered credit monitoring, driving up costs. The first lesson: You can potentially dramatically reduce your exposure by destroying records of past customers.

• You can't mail letters if you don't have an address. In the event of a breach, companies are typically required to notify affected individuals via old-fashioned "snail mail." But they can use alternative methods of notification, such as email or public announcement, if they do not have a valid mailing address. Physical, written notifications can cost up to $2 per person, and the cost quickly adds up. It may be worth asking twice what the business need for those customer addresses is and considering not capturing them to reduce the exposure to notification requirements.

• You say it wasn't a breach, but can you prove it? Data from BakerHostetler shows that in 44% of incidents, public notification is not required. To avoid notification, companies must prove that, even if they were attacked, no records were improperly accessed. To do so, they use systems logs, which keep track of user activity and show who accessed which records and when. Unfortunately, many companies don't activate their systems' logging or don't configure them properly. Without logs, a company may be forced to assume a breach occurred because it cannot prove otherwise. CFOs don't have to be network experts to ask, "Do we have sufficient logging enabled to prove whether personal records have been accessed?"

• You can't stop credit card fraud after a breach. For breaches that involve credit card data, reimbursing

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card companies for fraudulent transactions can amount to a staggering expense, from $3 to $30 or more per card, according to the BakerHostetler study. New chip cards are designed to reduce fraud, and early data show they are having the intended effect—MasterCard reported a 54% reduction in counterfeit card fraud costs at retailers that have switched to chip cards. While there are many considerations for companies transitioning to chip cards, CFOs should factor reduced damages from data breaches into their cost-benefit calculations.

• If you've never done this before, get help from someone who has. Your breach response effort is not a good time to reinvent the wheel. Missteps happen fast and have serious consequences. One example is customer communications. After a breach, the pressure to communicate quickly with customers can be intense. But ineffective communications can cause panic, dramatically increasing the rate at which customers phone call centers and sign up for credit monitoring, which can cost $5 to $30 per person. Data breach specialists, such as public relations consultants or data privacy lawyers, often have seen hundreds of data breaches and are highly practiced at helping companies craft a genuine story that keeps confusion—and costs—down.

Without system logs, a company may be forced to assume a breach occurred because it cannot prove otherwise.

• You are probably going to be investigated by regulators. In the wake of a breach, a company may be investigated by a number of regulatory agencies. While it's not guaranteed to occur, it is likely, and there are simple steps you can take to prevent sensational fines if it does. To start, CFOs should be strong advocates for implementation of the security controls recommended by external auditors or by regulators themselves. The $3.2 million fine cited earlier came after a hospital's second breach in a short span of time, during which the hospital had knowingly refused to make the improvements previously recommended to them.

While these steps will help mitigate the cost of a data breach, new cyber threats such as ransomware are a growing threat. One of a company's first steps in response to a ransomware incident should be to determine whether the attack also constitutes a data breach (that is, if the ransomware attackers have access to encrypted files). If the answer is yes, the actions above will also prove relevant. CFO

Rotem Iram is the founder and CEO of CyberJack, a cyber insurance company.

SEC Jolts Initial Coin Offerings

The commission finds a token sale was subject to federal securities laws.

Digital coin offerings—a means of crowdfunding using cryptocurrencies—are now likely to come under stricter scrutiny as a result of an investigation by the Securities and Exchange Commission.

In a report issued in late July, the SEC cautioned market participants that federal securities laws apply to offers and sales of digital assets by "virtual" organizations, including "initial coin offerings" (ICOs) or "token sales."

The commission reached that conclusion after conducting an investigation of a token sale in June 2016 by an organization known as the DAO. The sale was conducted through the Ethereum blockchain, a popular form of distributed ledger software, but hackers stole the tokens in question, triggering the SEC investigation.

According to the SEC, the tokens offered by the DAO were securities and therefore subject to the securities laws. "The innovative technology behind these virtual transactions does not exempt securities offerings and trading platforms from the regulatory framework designed to protect investors and the integrity of the markets," Stephanie Avakian, co-director of the SEC's enforcement division, said.

Dozens of companies have completed, or are in the midst of, raising hundreds of millions through the ICO process. Smith + Crown, a website that lists offerings, includes one from a company called EOS that is valued at $232.6 million, and another worth $153 million conducted by a company called Bancor.

Proponents usually argue that the tokens are not securities but a form of credit. On the other hand, the tokens are often termed "digital stock certificates" and can at some point be traded on a secondary market.

The SEC said the DAO would not have been eligible for the crowdfunding exemption to the securities laws in part because it was not a registered broker-dealer. | MATTHEW HELLER

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ACCOUNTING

The Many Myths Of Budgeting Season

Separating budget fact from fiction is the key to getting the most out of the process. By Hal Polley

August, it has been said, is the Sunday of summer. Relaxation gives way to a muted but growing anxiety about the demands of September as the workforce slowly marches back into business-as-usual mode. For no one is that more true than the CFO, as August marks the entrance to primetime budgeting season. ¶ Nowhere is that season more critical than in a private equity environment. Not only is the accuracy of the budgeting process critical to compensation plans and debt covenant analysis (an area in which "surprise" is a four-letter word), it's also critical to the fund sponsor whose demands of budget granularity require heightened resources and investment.

The importance of the budget for a PE-backed company cannot be overstated. When done well, it's an efficient process that:

- Highlights opportunities for profitability improvement and growth acceleration;
- Measures the success of value-creation initiatives and progress toward investment theses; and
- Provides a balance between stretch goals and related compensation plans on the one hand, and true visibility into the coming year on the other.

More often, however, the budget is a bandwidth burden that falls far short of exploiting those opportunities.

Despite its importance—or perhaps because of it—the budgeting process seems bathed in corporate lores, legends, and myths. Some of them have merit; many do not. Separating budget fact from fiction is the key to getting the most out of the process. Here we assess the top four budget-season myths for accuracy.

1. Zero-based budgeting is an all-or-nothing game. If you're a fund sponsor, the term zero-based budgeting (ZBB) makes your heart swoon. If you're a PE-backed CFO, it's less heart swell and more heartburn. In either case, the term is frequently misunderstood or misused and, because of that, it can be an opportunity missed.

Introduced in the 1970s, ZBB is a process that requires managers to build their budgets from zero on an annual basis. It employs a complex methodology wherein finance breaks costs into decision packages, assigns each package two owners with differing perspectives, and requires decision-makers to force-rank priorities. ZBB's focus on exposing and eliminating unproductive costs and understanding cost drivers has earned it a renaissance of late, particularly among cost-focused PE firms that seek more sophisticated value-creation tools.

The benefits it offers in a PE environment, with its finite investment horizons, are plentiful:

- Mission Focus: ZBB achieves a well-justified budget aligned to strategy rather than history.
- Cost Reduction: Using it avoids "automatic" budgetary increases.
- Alternative Analysis: ZBB improves operational efficiency via a rigorous challenge of assumptions.
- Communication: It increases inter- and intra-department coordination.

But, ZBB is extremely bandwidth-intensive and extraordinarily complex. It requires a deep bench with specific skill-sets that take time to acquire. So, fund sponsors tend to lean in, while CFOs prefer to lean out.

The mistake both make is assuming that ZBB is a zero-sum game. It needn't be an all-in scenario: *many* of its principles can be borrowed and applied to *certain* costs in *most* businesses. (It's particularly applicable to costs that

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are not directly related to revenue and businesses that are the result of various mergers or spinouts from larger corporate entities). Leveraging *some* of ZBB's core concepts (like decision units and decision packages) can force the organization to think about alternative ways to perform functions without burdening the business with some of ZBB's labor-adding exercises. Think of it as ZBB-light: Same great taste, sans the heartburn.

"Despite its importance—or perhaps because of it—the budgeting process seems bathed in corporate lores, legends, and myths. Some of them have merit; many do not."

—Hal Polley, head of strategic finance at Accordion Partners

2. The (budget) world is flat. This one might have fallen out of favor around the time of Columbus, but you'd be surprised how many finance functions have either forgotten both elementary history and math or simply don't realize its application. The corporate world is a sphere, not a circle. As such, the finance function needs to take a multi-dimensional approach to budget creation and review—dismissing assumptions based on automatic annual adjustments and instead "reality checking" numbers from multiple angles.

That means budget creation must begin with a build-up of both revenue and expense drivers. The former includes granular assumptions on areas such as sales team effectiveness and pricing, pipeline, bookings and backlog, and revenue realization across relevant dimensions (product, customer, region). The latter is a process that includes expense assumptions by product and by channel.

The world-is-flat approach ends there. Conversely, the spherical process has only just begun, starting with a multi-dimensional analysis and refinement of the budget, that:

- Analyzes historical patterns and risk-adjusts numbers;
- Doubles down on granularity (by ensuring assumptions are built "bottom up");
- Benchmarks against competitors and the overall market (growth rate, market share, wallet share, pricing, etc.); and
- Pressure tests with challenge scenarios.

The flat approach relies heavily on assumptions—and you know what they say about assumptions.

3. The budget process is hampered by too little data. Survey says no. In fact, if anything, CFOs suffer from too much data: too many competing golden sources of truth create one big falsehood.

Reconciling data is a critical part of any budgeting process, but it's even more critical in a PE-backed environment wherein investment theses are often built around synergy realization or serial acquisition (add-ons). Having the right sources of data to understand redundancies and capture them within the budget can be the key to realizing a return on an investment thesis. Having to do so with a disparate technology infrastructure inherited from constant M&A activity can be nearly impossible.

As a result, finance will need to hone its tech skills during the budgeting process: The focus must be on building platforms that enable integration and integrity, thereby solving for too many data sources. Technology supporting the budgetary process should also enable flexible analysis (line-item detail, ongoing adjustments, what-if analysis, and on-the-fly dimensional analysis). The key here is to not make data reconciliation the end goal. Instead of spending time pulling data together, the CFO must (eventually) spend time building plans from it.

4. Finance as bad cop. Yes, CFOs often take the heat given their role designing the budget process, enforcing the hard deadlines, asking the difficult questions, and challenging the business to rethink priorities. But that doesn't mean there's not a good cop role for finance to play as well.

Making business leaders interactive partners in the budgeting process and clarifying what everyone has to gain can make an effective budget a shared goal worthy of the time investment. But, the smart CFO knows that's the easy stuff. Arming department heads with enough skin in the game to make cuts worth their while—either because of broader reputation or in favor of investments that will lift all corporate sails—is where the real rubber meets the road. It is here where the strategic CFO can take budgetary hardships and turn them into strategic partnerships with business leaders. Taking time to determine the right answers means rewarding comp plans and overall corporate success—the latter usually a key incentive for operational leaders.

While the rest of us lament the end of long days spent in the sun, CFOs mark the start of long days spent in (insert the name of your budgeting software here). Those at PE-backed companies will have even longer days.

The most innovative CFOs will try to improve the inevitably long process by assessing new budgetary techniques. They will be astute enough to adopt, where appropriate, portions of new techniques; accept, where appropriate, advancements in best practices; and reject, as appropriate, the myths that encumber an already overly burdened and under-resourced budgetary season. CFO

Hal Polley is managing director and head of strategic finance at Accordion Partners.

Courtesy Accordian Partners

The CFO as "Chief Commercial Officer"

AutoGravity's finance chief analyzes huge amounts of customer data to set strategy and increase transaction profitability. By David M. Katz

Like many finance chiefs who work for startups, Lukas Wickart, the CFO of AutoGravity, a fintech firm launched in 2015, must improvise his role rather than fit himself into a preconceived set of functions. "There is no handbook or training on [the job] out there. As a startup, we are writing the book as we go along," he tells *CFO*. "We make our mistakes and we learn."

To try to make sense of his role at AutoGravity, whose mobile and web applications let consumers finance and lease cars online, Wickart uses key airline-industry concepts he picked up in his prior job as vice president of corporate strategy and finance at Surf Airlines.

One idea is that the finance chief is really the "chief commercial officer" of the company. That function involves analyzing huge amounts of data to understand "how the consumer interacts with our products down to the most granular level," he says. "Or even before they start using our product."

A related idea he's held onto through his job change is "revenue-yield management." Rather than managing finance from a broad perspective, Wickart aspires "to understand the unit economics of each and every product down to the last level." Wickart recently spoke with *CFO* about his role at AutoGravity; an edited version of the interview follows.

What's the nature of AutoGravity's business?
We are a pure financing source, but actually we're more of a partner with dealers. For example, in the United States we work with four out of the top five largest dealership groups. They don't see us as a competitor or as somebody who eats their lunch. They actually see us as a partner who helps them generate demand from millennials and other new customer groups and lower their acquisition cost.

So customers go to your site, find a car, and then find financing for it?
Correct. We're nearing about half a million users. We have apps employing IOS for Apple and Android, as well as a web application. Consumers can use these to select the vehicle that they would like to finance. They get up to four binding offers, which aren't just comparisons. The offers get loaded into the dealer management system and can be retrieved at the dealer. You can go to the dealer and the financing is already set. Because you have these four offers, you can choose one, and then it's binding. You can go pick up your car and drive it right then.

What are the company's prime sources of capital?
The car companies, specifically their captive financing groups, are very important partners for us. We can offer leasing on these different vehicles, because Mercedes, for example, is willing to pay for the residual value risk on their own cars. [In July, VW Credit, the captive financial services arm of Volkswagen, committed to make an equity investment in AutoGravity, pending regulatory approvals.]

Is an IPO in your future?
We're very far out in that respect. I don't want to make any predictions, but I believe this business certainly has the potential to grow to a stage where an IPO could be possible. Or it could become a jointly owned strategic man-

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agement venture of a few of the large industry players.

What do you see as your role as finance chief?
Ultimately, in a startup company, you are really responsible for the commercialization of the business. You are what I like to call the "chief commercial officer." And what that means is that, together with the board of directors, you have to be able to crystallize your strategy and your business model. You have to translate it into measurable targets, track the fees you're paid and report them back, and keep investors updated on what you're doing.

What are your specific tasks as the chief commercial officer?
At AutoGravity we collect huge amounts of data that allow us to very quickly see where we need to improve our product, where the consumer expects something different, and where engagement falls off. That's where the role of a more modernized CFO very much comes in, working very closely with the chief technology officer to build out the artificial intelligence or machine-learning capabilities. Eventually you want your system to learn how people engage and automatically generate a customized process for each consumer, depending on their needs.

What data does your company look at most closely and what do you look at specifically as the CFO?
As a broader company, one thing we look at closely is how people engage with our marketing efforts. What is the customer acquisition cost? But for me as a CFO, what's very important is to understand where we should focus our investment activities. If we want to build out new product features or change our marketing approach, I want to track that financially and understand where the efficiencies are, what the unit economics of our product are, and who the users are who come to our product.

"I feel data analytics at AutoGravity or at any fintech or technology-enabled company is very much a cross-functional discipline. You need to work very closely with your technology counterparts..."

— Lukas Wickart, CFO, AutoGravity

It sounds like there are two skills involved: analyzing the data and then turning the results into a strategy.
Absolutely right. That's why I feel data analytics at AutoGravity or at any fintech or technology-enabled company is very much a cross-functional discipline. You need to work very closely with your technology counterparts to build this capability to analyze large volumes of data. This is not your average Excel spreadsheet or Microsoft Access database. This is real artificial intelligence to spot trends and user behavior early on.

What metrics drive you as the CFO?
As a young, consumer-facing business, we see marketing as a very high spend. You need to make sure you get the word out. For me as a CFO in a startup, that's actually a pretty unique challenge because you don't generate the revenue or cash flows and reinvest them back into your business early on.

What you do is raise the money and invest it into making your product or your business model better. The investors' money comes in big chunks, so suddenly you have a relatively large amount in your bank account. That awakens all sorts of desires, as every CFO knows. It's your task to keep this resource very scarce and make sure it's invested in the best possible way, so you can then show the investors results for the money they put in.

The first major metric is the marketing component. The second is the allocation-of-capital component, so I'm very much an investment manager. And the third component is user engagement with the products, because I want to understand what we are building and what the consumer wants. It's very tempting to just build in a dark chamber for two years and come up with a great product [but then you might] learn that nobody wants it.

What's the nature of your "investment manager" role?
It's not the traditional investment management role of investing money in soft markets and so forth. It's investing very selectively in the growth of the company, considering the product sets and the business model. It's understanding, for example, that if we spend a million dollars on engineering capability to build out feature X, it will affect our spending for consumer engagement or for our platform in a certain way.

One of your big concerns, you've said, is "revenue yield management." What do you mean by that?
That's one of my personal favorite topics. In the 1980s, yield management became a popular concept in the airline industry. It enabled companies to understand the unit economics of each and every product down to the last level. For airlines, it's the seat. For us, in our situation, we need to understand the unit economics down to every user. For example, it costs me X to get a consumer to engage with our platform. But then I want to understand where I need to spend the money most efficiently to get that engagement. How does that user engage? Does he then actually buy a car? Does he take out the loan?

If I, as a CFO, can understand what targets I should set, I can help my organization grow in the most scalable and profitable way. CFO

Courtesy AutoGravity

STRATEGY

When Projects Have A Zero or Negative NPV

Conducting financial analysis on zero and negative NPV investments is as important as doing it on positive ones. By Gregory V. Milano

The net present value (NPV) rule is essentially the golden rule of corporate finance. Most every business school student is exposed to it in most every introductory finance class. It dictates that investments should be accepted when the present value of all of the projected positive and negative free cash flows sum to a positive number.

Formalized and popularized by Irving Fisher more than 100 years ago, this framework has stood the test of time. After decades of working in the field, I firmly believe the NPV rule is an accurate way to evaluate decisions, and the math behind it is a useful way to value companies. We calculate NPV as the present value of residual cash earnings, instead of free cash flow, because it provides a similar NPV result but gives better insight into period performance and allows us to track progress after the investment is made. (RCE is calculated as the cash generated by the business less a charge that reflects the expected return of the shareholders and lenders for the use of the company's capital.)

Despite the general acceptance and validity of NPV, every single company makes many investments that appear to have zero or negative NPV. This is not bad, per se, as long as it is done for the right reasons and is properly managed. Unfortunately, many companies don't do it for the right reasons and don't manage the process well.

We have all heard executives say that a decision was "strategic" when it couldn't be justified financially. However, if it never turns out to be financial, then it is not very strategic. It's true that sometimes the benefits of an investment are hard to quantify or are expected to take an unusually long period of time to materialize. But if there are no benefits, the investment is not strategic. Don't rationalize a forecast when it's like throwing darts at a wall, just recognize that the benefits must be there but are simply hard to quantify or predict.

In many companies, the problem begins at the start of the process. Often, the capital investment approval process is about checking the box where the requester indicates that this investment is for growth, for improved efficiency, or for some other "strategic" reason. This last category can include investments to improve safety, comply with environmental regulations, or maintain assets by, for example, replacing a roof on an aging building.

In many companies, when the "other" box is checked, it is simply assumed the investment is required and the approval process moves along with little or no financial analysis. After all, if we know the NPV will be negative, why do the analysis? It won't affect the decision. Herein lies the main problem.

There are many significant benefits to preparing forecasts and evaluating NPV even when we know in advance the results will be a zero or negative NPV because the benefits are difficult to quantify. We can still consider different investment alternatives to try to find the least negative NPV solution. Perhaps we are installing a scrubber designed to reduce emissions from an industrial process, and a scrubber twice the size may cost only 20% more now but it's purchase would significantly delay the point at which the next scrubber must be added. Over a life cycle, this may be a less negative decision, which is better than

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the more negative decision. Or maybe the smaller scrubber would be better. How do we know which will have the least negative NPV without analysis?

The problem often isn't that an investment has a negative NPV but that the benefits are just hard to quantify. Instead of throwing up one's hands and saying it cannot be analyzed, it is far better in some cases to at least back into the NPV–break-even forecast and qualitatively assess whether management believes the future will be above or below the NPV break-even line. People are often more willing to say yes or no to a break-even than they are to submit a forecast of what will happen.

We can then use those break-even assumptions to establish minimum milestones, financial and otherwise, that can be tracked after the investment. For example, consider an investment in technology that will speed up access to data used by many employees every day. Maybe the break-even assumption is that 500 employees per day will need to access the information for the project to be financially feasible. Even though this may be a negative NPV, we can track how many people access the data each day and at least see if the expected benefits are happening. This can be good to know the next time an investment of this kind is requested.

Sometimes projects seem to have a negative NPV because the investment doesn't make anything better; rather, it keeps from making something worse. If a roof isn't replaced, it will leak and eventually the company will need to close the facility. Or worse, the roof collapses, resulting in litigation. Keeping that bad outcome from happening is beneficial, but including the facility running or not isn't helpful to the NPV analysis. So, we live with a negative NPV—but should still try to find the least negative NPV solution.

Some companies go to great lengths to make sure they execute strategic investments that appear to have a negative NPV, in some cases deliberately misallocating costs and assets to other projects so the investment looks artificially better. These cross-subsidies are said to keep a results-oriented organization from terminating strategic initiatives. Unfortunately, this sort of artificial support often endures due to organizational inertia and political posturing, resulting in bad decisions where other truly profitable projects are rejected over time because they are saddled with costs that have been wrongly allocated.

Eventually, the misaligned costs and assets are often treated as if they were reality. This can have adverse implications for operational decisions, such as pricing, and strategic decisions, such as how much to invest in growing the subsidized business. It would be much better to face the negative NPV, support the initiative anyway, and have clear financial and nonfinancial milestones that will be signs that the activity should continue to grow into someday having a positive NPV or being shut down.

Conducting financial analysis on zero and negative NPV investments is as important as doing analysis for positive NPV investments. It will also help in evaluating alternatives to find the least negative NPV solution and in setting up minimum milestones that can be used to track performance after the investment. When forecasts are hard to create, consider using NPV break-even analysis. And avoid subsidizing activities to make them look better—facing reality will always lead to better decisions. CFO

"We have all heard executives say that a decision was 'strategic' when it couldn't be justified financially. However, if it never turns out to be financial, then it is not very strategic."

—Gregory V. Milano, founder and CEO, Fortuna Advisors

Streamlining Investment Decisions

Far too many companies have complex, cumbersome, conflicting, and confusing approval processes for investments. Whether it's for the approval of a capital expenditure, acquisition, or research and development program, there are often too many different analyses, metrics, and go/no-go signals, and they often pull in different directions.

Why does this happen? Among many reasons, it's human nature to avoid sticking one's neck out on a decision. Managers prefer to fall back on a seemingly sophisticated investment decision process that appears intellectually defensible.

However, the complexity often leads to poor decisions, for two reasons. The first is that the litany of analyses can result in "analysis paralysis," where profitable growth and innovation can be stifled. Making no decision due to conflicting signals can seem to be the most prudent course of action. The second is that there is a temptation to selectively choose the one analysis that best supports the manager's opinion. In such cases, the analysis is not used to come to a decision, but rather to justify an opinion. | G.V.M.

Gregory V. Milano is the founder and chief executive officer of Fortuna Advisors LLC.

CFOs TO WATCH 2017

VALUE DRIVERS

Using cost discipline, astute capital investments, and operational know-how, these 20 CFOs aim to guide their companies to a growth-filled future.

CHOOSING THE TOP FINANCE CHIEFS for the third annual installment of CFOs to Watch was tricky. We wanted to honor a CFO's past performance but, like stock-pickers, also wanted to select candidates with an eye toward what they might do in the next 12 months.

Consequently, the 20 finance chiefs named on the list really satisfy two requirements: they've made sizable contributions to their companies' past successes, and, at the same time, the current disruptive forces buffeting their organizations may vault these CFOs into even greater prominence.

These days, every industry is under the gun, if not from digital startups looting their customer bases then from investors (sometimes activist ones) who see companies' shares priced to perfection and, when it comes to financial performance, expect just that.

The CFOs we chose don't shrink from a challenge. The finance chiefs profiled on the following pages have a combined 100-plus years in their current jobs. They are responsible for billions of dollars in profits and for steering the capital structures of companies that are vital to the U.S. economy. In addition, as it turns out, the list includes CFOs of some giant consumer-facing organizations that can ill afford financial, operational, or strategic mishaps.

Given the demand for sales growth and profit margins from Wall Street and beyond, these finance chiefs won't be resting on their laurels. The next 12 months may be some of the toughest of their tenures. Can they live up to the high expectations? We'll be watching.

David M. Katz and David McCann, deputy editors of CFO, and Vincent Ryan, editor-in-chief, wrote the profiles that appear on the following pages.

Getty Images

John Stephens

SENIOR EVP & , AT&T

TRANSFORMATION ON STEROIDS

These days, finding a big company that's not in transformation mode is tough. But what's going on at AT&T just might be "the mother of all transformations"—and that's without taking into account the company's proposed $85 billion acquisition of Time Warner.

Multiple reports in July suggested that the Federal Trade Commission and the Justice Department were leaning toward approving the transaction by year-end. That alone would make John Stephens a lock as a CFO to watch, given the complexity inherent in integrating two massive companies.

STEPHENS

The need for high-octane financial planning, ROI analyses, and capital-allocation choices means that Stephens could literally make or break the company.

At the same time, if the Time Warner deal were not on the table, Stephens would still be under omnipresent appraisal. A large part of AT&T's $22 billion of capex last year and this year is for developing a breathtaking array of futuristic technologies. The attendant need for high-octane financial planning, ROI analyses, and capital-allocation choices means that Stephens and his finance team could literally make or break the company.

AT&T is making a fundamental shift from being primarily an infrastructure company to one that also provides customers with entertainment content and access to Internet of Things (IoT) applications. In fact, AT&T's focus today is almost wholly on technology and media, with comparatively little attention paid to legacy telecom.

The content portion of the equation largely rests on strategic acquisitions, driven in large part by Stephens. The effort kicked off in earnest two years ago with the company's $49 billion purchase of DirecTV, which vaulted it into the lead position among U.S. pay-television distributors. The deal also has allowed AT&T to make a large assortment of streaming content available to its approximately 150 million wireless-device users. The Time Warner deal, if approved, would represent an even bigger slice of the content pie.

But perhaps the most interesting aspect of AT&T's transformation is its ongoing development of the wireless network that enables its services. It's a 4G "LTE-advanced" network now and the company says there's further room for improvement, but testing is in full swing on a 5G network that will dramatically improve Internet connection speed and capacity.

5G will power much more than content delivery. AT&T is testing IoT applications that enable network connections for everything from driverless cars to everyday household items like refrigerators, washing machines, and even trash cans. Widespread consumer usage of such technologies is still some way off, but AT&T already has deals with several cities for connected "smart city" capabilities like energy-efficient, intelligent LED lighting; environmental sensors that measure various forms of pollution; and kiosks that help residents and visitors find their way around the city.

Another AT&T innovation currently being tested, called AirGig, delivers low-cost, high-speed wireless Internet connectivity by affixing to existing power lines small plastic devices that send a signal through the electromagnetic field that surrounds the wires. AT&T has more than 100 patents supporting the technology, which has the potential to greatly expand the availability of Internet service around the world.

Stephens' job is a big one by nature, considering there are 16,000 employees in the functions that report to him. But making sure that as much of the above-described activity as possible works for AT&T from a financial standpoint will be a mind-bending feat. | DAVID McCANN

Cathy Smith

EVP & CFO, TARGET

A SILVER LINING

One of the biggest personal challenges Target CFO Cathy Smith finds herself dealing with is striking a balance between her naturally upbeat nature and a certain wariness stemming from retail industry turbulence. "Every day I try to provide enough optimism but also enough realistic pessimism," she tells *CFO*. "I wouldn't say I have it nailed."

Smith, however, seemed to nail an appropriate note of caution on Target's first-quarter earnings call in May. It was a realism that might have been tinged by a subpar 2016, a year in which her total compensation dropped by more than 40% (to about $4.4 million) on the heels of the company's failure to reach sales goals, according to a Target proxy statement. (Her boss, CEO Brian Cornell, saw his total compensation fall by a third, to about $11 million.)

Another source of the CFO's cautiousness seemed to stem from a 1.3% first-quarter decline in the crucial metric of same-store sales, which she attributed to decreased store traffic and smaller average purchases.

Smith's brighter side emerges when she talks about the retailer's huge investment in improving its operations. In February, Target announced that over the next three years it will spend more than $7 billion for store remodeling, building new small-format stores, and improving its digital and supply chain capabilities. This year, the company will invest about $1 billion of its annual operating profits in related efforts.

It was "a pretty big ask" of the shareholders, the CFO says. "But we did it because ... we'd like to be really well positioned to win" in the rapidly changing world of retail.

"We've been in a very significant transformation for the last two years," she explains. "But in the latter part of 2016 it was clear that the consumer was changing faster" than the company had anticipated. "It was very clear that we needed to accelerate some of the stuff [we had] been testing."

Much of the effort is aimed at boosting the efficiency of Target's supply chain. Before, when most customers of big-box retail stores drove to malls to do their shopping, Target's supply chain moved pallets of identical goods to identical-size stores, according to Smith.

SMITH

Responding to what it sees as a population shift—customers from the suburbs moving to the cities—Target is building smaller stores in densely populated areas like New York and Chicago. To accommodate those smaller stores efficiently, the company is working on a system to limit the delivery of items to their expected rate of sale, rather than merely sending a set amount of items to fit the floor space. Also on tap are plans to use the bigger mall stores as distribution "nodes," from which excess goods can be shipped faster to the small stores (rather than shipped from more-distant warehouses).

While the transformation will cost the company a great deal, a revamped supply chain is also likely to offset some of the expense by cutting down on inventory. Such an improvement is a happy financial byproduct of the transformation, according to Smith. "There are all kinds of side benefits [to the supply chain efforts] that, as a finance person, I get excited about," she adds. Can Target keep up with consumer habits and reap similar financial gains from other operational investments? Smith will be key to whether that happens. | DAVID M. KATZ

"Every day I try to provide enough optimism but also enough realistic pessimism," says Smith.

David Wells

CFO, NETFLIX

HOUSE OF CARDS? Being a disruptive force in any industry can be both a blessing and a curse. David Wells, finance chief of Netflix, knows this all too well. Since Wells became CFO in 2010, Netflix's shares have soared, giving it a $78 billion market capitalization. The company's video streaming service hit 103.9 million subscribers at the end of the second quarter, up 5.2 million from the previous quarter, the largest jump in six years. And Netflix made its first acquisition in August, buying a comic-book publisher that will provide a source of superhero storylines. But those achievements have set up some pretty large expectations for this media and entertainment business highflyer.

It takes a lot of content to satisfy 100 million subscribers and attract new ones across the globe: in 2017's second quarter, Netflix premiered 14 new seasons of original series, 13 original comedy specials, six original documen-

Courtesy the companies

taries, and nine original feature films. With half of Netflix's subscriber base now international, the company will also have to generate more local content for a non-U.S. audience. That means more programming costs. (And in 2019, Disney plans to pull out of a deal to stream newly released movies on Netflix, leaving another content hole.)

WELLS

As with any company, funding is not an infinite resource. While Netflix turns a profit, it projects negative free cash flow of more than $2 billion for 2017, a trend that it expects to continue.

"We're still being very disciplined about the efficiency of our content cohort investments," CFO Wells told analysts on the latest earnings call. But founder Reed Hastings was unapologetic, saying, "... the faster that we grow and the faster we grow the owned originals, the more drawn on free cash flow that we'll be. So in some senses, negative free cash flow will be an indicator of enormous success."

Most Wall Street analysts are a bit more skeptical, attempting to figure out when, exactly, Netflix will generate positive free cash flow from its investments. Theoretically, as the streaming service's subscriber base grows, the company's EBITDA margin should expand, as costs are spread over more customers. But the equation rarely works that neatly. Some analysts are questioning, for example, whether the money Netflix makes back from feature films is enough to justify the expense.

Analysts are also generally concerned about the quality of Netflix's disclosures. After the company's second-quarter earnings call, Laura Martin, an analyst at Needham, said what struck her was "how many things we don't know about ROI, earnings, or subscriber-growth drivers. ... We see extra risks because Wall Street doesn't have enough information to calculate the bottom if the shares fall out of favor."

"We're still being very disciplined about the efficiency of our content cohort investments," Wells told analysts on the latest earnings call.

Much of this will fall on Wells' plate as he returns from Amsterdam after a two-year stint during which he set up a European customer service hub.

There's no doubt that Wells has the operations aspect of the business down cold; now, however, he will have to explore ways to stem the cash burn. He could try to develop and license content more inexpensively, cancel programming flops faster, or raise prices for subscribers by offering differentiated tiers of service. Investors are pricing Netflix like it can do no wrong, giving shares a price-to-earnings ratio of 220. University of Chicago graduate Wells will need every ounce of his finance acumen to keep serving up the performance numbers and content that investors and subscribers want to see. | **VINCENT RYAN**

Brian Olsavsky

SENIOR VP & CFO, AMAZON.COM

MAESTRO OF OPERATIONS

On Amazon.com's first-quarter earnings call last April, RBC Capital Markets managing director Mark Mahaney, like any good sell-side analyst, was following the money. His question: Were families that use Amazon's Echo speakers and Alexa voice services likely to spend more on the products the retail giant delivers?

Characteristically, Amazon finance chief Brian Olsavsky didn't want to talk about finance. Acknowledging that Mahaney's question was about "monetization," the CFO answered, "That's not our primary issue right now."

What the CFO, who has been with the company since 2002, wanted to discuss was customer engagement. "[As] we pick up engagement with the devices, it helps the engagement with Amazon as a whole," Olsavsky said. "[T]he things customers love can grow to be large" and produce strong financial returns that can "last for decades."

As the face the company presents to the investment community (CEO and founder Jeff Bezos rarely shows up at earnings calls or investor days), Olsavsky epitomizes the operational CFO, a finance chief who seems less concerned with quarterly earnings and cost control than with the business itself. “He’s probably more operational than most of the CFOs I interact with,” Mahaney, who covers information technology companies, tells *CFO*. “He’s probably more deep in the weeds of the unit economics of each of the different elements of his business.”

Before becoming Amazon’s CFO in 2015, Olsavsky spent thirteen years in a variety of executive posts, including work in its worldwide operations and consumer and retail units. In fact, the finance chief’s lengthy tenure with the company is a key strength, providing him with a wealth of contacts within its various businesses, analysts say. His long and varied tenure also means he has a detailed understanding of the business as a whole, giving him an advantage over CFOs who change companies and industries more frequently.

Long service and promotions from within are “a very Amazon way of doing things” that’s produced a tight circle of executives who are intimate with Bezos’ long-term vision for the company, says Daniel Salmon, an equity research analyst at BMO Capital Markets.

Consistent with Amazon’s culture is its tendency to be skimpy about interpreting its financial results for public consumption. Yet because of the hefty returns the company provides to shareholders, the market is more than willing to provide it with ample capital “without seeing the cash flow and the margin expansion flow through in the way that one would normally expect from a company,” says Salmon.

Similarly, the market has been remarkably patient about Amazon’s ability to turn a profit. Instead, investors and analysts have been more than satisfied with its aggressive investment in far-flung areas like groceries (its recently announced acquisition of Whole Foods Market) and home appliances (through an arrangement with Sears) as well as in its existing public cloud services.

For that reason, Olsavsky is likely to continue to enjoy earnings calls with little pushback from analysts. Looking ahead, “the real question is not what Brian says, but what the business of the company is,” says Salmon.

“The way I look at him, ultimately, is as the maestro of managing where [the] numbers go.” | **D.M.K.**

OLSAVSKY

Olsavsky epitomizes the operational CFO, a finance chief who seems less concerned with quarterly earnings and cost control than with the business itself.

Robert Shanks

EVP AND CFO, FORD MOTOR

UNDER A MICROSCOPE Ford’s new chief executive, James Hackett, has been shaking things up at the automaker, taking a fresh look at everything from using data modeling to maximize revenue opportunities, to improving investment ROI, to ensuring the company’s overall fitness to compete. “We’re transforming the culture and creating an environment to win,” Hackett said during Ford’s second-quarter earnings call in July.

In a recent interview with Bloomberg Daybreak, CFO Robert Shanks called the reassessment “exciting” and said there has been “better clarity around decision-making and less bureaucracy” since Hackett took the helm. Still, the examination, and the implication that an environment to win did not already exist, may not be wholly comforting to Shanks.

But he’s unlikely to be fazed much after 40 years with the company (the last 5 as its CFO), even though he’ll be the point person for implementing most major changes and will be expected to thrive in the altered environment. How he goes about shaping it should make for interesting viewing.

Right now Shanks is navigating through a period of steeply higher costs for steel and other commodities, which through the first half of the year were up $600 million compared with the first half of 2016. Ford also faces currency-exchange weaknesses in Europe and Asia. And the CFO is also watching over Ford’s investment—which is expected to total $1 billion by 2021—in self-driving-vehicle startup Argo AI. ➤

Courtesy the companies

Still, compared with the dark time in November 2008 when some automakers (not Ford) required a financial bailout from Congress, the recent past has been a smash. A record 88 million autos were sold worldwide in 2016, up 4.8% from a year earlier, and profit margins were at a 10-year high. Ford, as it happened, saw its bottom line sink by 38% in 2016. But the company has been beating revenue and earnings estimates this year.

Unfortunately, some trends augur trouble for the auto industry. Over the last five years, when the average annual total shareholder return among companies in the S&P 500 and Dow Jones Industrial Average was 14.8% and 10%, respectively, average annual TSR for automakers was only 5.5%, notes Strategy& in its "2017 Automotive Trends" report.

Perhaps worse was the industry's 4% return on invested capital in 2016, a performance that Strategy& labeled "anemic." "[The] numbers ... paint a picture of a sector that is a less-attractive or less-lucrative place to invest than other industries [and suggest] that there will be relatively few winners in the auto industry during the next five years and beyond. Those that do stand out will be those that harness their limited capital resources in creative ways."

SHANKS

Shanks will be the point person for implementing most major changes at Ford and will be expected to thrive in the new environment.

Which brings us back to the particular financial environment Shanks finds himself in. Ford is seen as a more valuable property than its main competitors. One-year-forward enterprise value-to-EBITDA is used widely to compare auto companies; following the first quarter of this year, Ford's multiple was 13.0x, compared with 5.5x for GM and 1.6x for Fiat Chrysler. Historically, Ford's stock has traded at a premium to stalwart GM's, a result of stronger brand equity.

Shanks, at age 64, may not care to be at Ford's finance helm for many more years. But he's built a strong foundation and will be an important presence at an inflection point for the 10th-largest U.S. company. | D.M.

Carol Tomé

EVP & CFO, THE HOME DEPOT

HEART AND SOUL It's not unusual for incoming CEOs, as they get comfortable in their shoes, to eventually replace their finance chiefs or other top officers with people of their own choosing.

It hasn't been that way for Carol Tomé, though: she's served under all five chief executives in The Home Depot's history since she arrived in 1995. The CFO since 2001, she notably survived several years later when then-CEO Robert Nardelli resigned amid complaints about his heavy-handed management style and outsized compensation.

Why is Tomé worth watching? Because she's always doing something big, whether within or outside of Home Depot. As for the latter, she's been a director of United Parcel Service since 2003. A banker before she joined Home Depot, she was a board member of the Federal Reserve Bank of Atlanta for five years, from 2008 through 2013, including stints as both chair and vice chair. She's also chaired Atlanta's chamber of commerce as well as the policy advisory board of the Harvard Joint Center for Housing Studies.

At her day job she is, in the words of stock-picking TV personality Jim Cramer, the "heart and soul of Home Depot."

In addition to being finance chief, she has served since 2007 as executive vice president of corporate services, which puts her in charge of the company's strategic planning. "It's critically important for any CFO to be at the strategy table," she tells *CFO*. "It [makes for] such an important combination of capital allocation and investment strategy. Trying to separate those can be very problematic for companies."

Tomé also plays a leadership role in the real estate area. It's a huge operational challenge for Home Depot, which has about 2,300 stores—90% of them company-owned—comprising 212 million square feet.

Mentorship is another of her passions. "I personally view that my legacy will be defined by the quality of my team," she says. In fact, at least 10 people who worked for her are currently finance chiefs of other companies. "I'm so proud of that," she adds, "and I'm super invested in them."

Recognition has been plentiful. Tomé at various times has been ranked No. 16 on Forbes' list of the World's 100 Most Powerful Women, ranked No. 2 on The *Wall Street Journal*'s list of best finance chiefs in corporate America, and named CFO of the year by the CFO Roundtable.

Home Depot's strong performance doesn't hurt her chances for continuing acclaim. She's helping to run a company that seems relatively immune to the ills plaguing the retail sector. Over the first six months of the current fiscal year, the stock outperformed the overall sector by 10.5%, according to Zacks.

For its most recent completed fiscal year, which ended on Jan. 29, Home Depot's sales grew by 6.9% to a record $94.6 billion, including a 5.6% bump for comparable store sales. Net profits rose by about $1 billion. Return on invested capital grew 330 basis points, reaching 31.4%, and diluted earnings per share grew to $6.45, up from $5.46 in the prior fiscal year.

TOMÉ

All of this for someone who never set out to be a CFO. Tomé counsels young businesspeople to do what she did: "Dream big but don't be too planful. [Just] take every opportunity to put tools in your personal toolkit." | **D.M.**

> **"It's critically important for any CFO to be at the strategy table," says Tomé. "It [makes for] such an important combination of capital allocation and investment strategy."**

David M. Wehner

CFO, FACEBOOK

PREPARING TO PIVOT When the former CFO of Facebook, David Ebersman, left the social media giant in 2014 to return to the health care industry, Mark Zuckerberg made a wise choice in David Wehner, the company's current CFO. Wehner was promoted from vice president of corporate finance and business planning and had been CFO of gaming company Zynga. In three years, Wehner has proved himself a deft finance pilot of a company whose debut on the public markets was inauspicious. The market has rewarded Facebook in that time by doubling the share price.

Wehner lacks flash, but he is detail-oriented, straightforward, and seems to have all of Facebook's important metrics at his fingertips. Despite two dynamic leaders above him on the corporate ladder (Mark Zuckerberg and Sheryl Sandberg), he also stays highly visible.

Since Wehner became CFO, Facebook has hummed along. The company delivered 45% revenue growth in the second quarter but it kept its operating margin high, at 47.2%. That's no mean feat in a quarter when Facebook had its largest-ever number of net hires, as it recruits engineers to drive the company's 3-, 5-, and 10-year priorities, according to Wehner. Facebook also doubled its allocation for capital expenditures in 2017, to $7 billion, for infrastructure investments (like data centers) and other areas supporting growth.

The focus on growth is evidence that Facebook knows it has no time to gloat over the large audience it commands. The company pivoted nicely to mobile advertising when desktop revenue slowed, and mobile now makes up 87% of the firm's total ad revenue. But as Wehner has been warning anyone within earshot for at least two quarters, Facebook is running out of space to load ads into users' news feeds, so it expects "ad revenue growth rates to come down meaningfully" in the near future.

What will fuel future growth? That's a key question for Wehner and his colleagues. Presumably, there is some optionality value in Facebook's chat apps, Messenger and

Courtesy the companies

WEHNER

As Wehner has been warning anyone within earshot for at least two quarters, Facebook is running out of space to load ads into users' news feeds.

Whatsapp, but there's no plug-and-play business model for messaging. In the shorter term it's video that will be the bigger driver of the business over the next two years.

The company is looking to seed video content on its platform to "get the ecosystem going," Wehner said on the July earnings call. While Wehner says investing in video will not be about "doing big deals" with content providers or building a massive studio, Facebook will have to devise an effective revenue-share model for video content providers. In August, it announced its "Watch" tab offerings, which include short-form video from about 30 partners.

Thankfully, Facebook had $34 billion in cash and short-term investments on hand at the end of the second quarter, and quarterly free cash flow was $3.9 billion. As absurd as it sounds, that could get spent pretty quickly, given all the competition in streaming video services. (Hello, Disney.) Wehner will have his hands full running scenarios on Facebook's financial future. Capital structure could be an area of focus: Facebook has no long-term debt. For a company with a CFO who was an investment banker for 10 years, that may be a future financing source as Facebook prepares to shift gears once again. | V.R.

Cathie Lesjak

CFO, HP

CONSTANT QUESTIONING

On November 1, 2015, when Hewlett Packard split into HP and HP Enterprise, it seemed as if the two companies could be easily typecast. HP Enterprise, the newly formed services and software business, would be the go-go, growth-oriented player. For its part, HP, although still a valuable corporate cash generator, would trudge along, flying the flag of the precursor company's personal computing and printing operations.

Outside observers could be forgiven if they jumped to the conclusion that Cathie Lesjak had gotten a raw deal. Pre-split, Lesjack had a stellar career as the CFO of Hewlett Packard. In 2011, for example, she was one of the few voices who spoke out in opposition to the company's acquisition of Autonomy, a British software maker. (Legacy HP subsequently took an $8.8 billion writedown as a result of accounting improprieties at the target.)

At the time, Lesjak could speak with the forthrightness of an executive who had enough backing within the company to have served as its interim CEO from August 2010 until November 2010. When the split occurred, she'd been with legacy HP for nearly 30 years, serving as its finance chief for eight of them.

Less than two years after the split, however, the idea that Lesjak ended up as the CFO of the less lustrous, slower-growing company turns out to have been a false assumption. In the face of a five-year

LESJAK

Lesjak believes that what she has uniquely brought to the table during HP's successful run is cost discipline.

worldwide slump in shipments of personal computers, HP has stood out as a star performer.

With the PC industry suffering 11 straight quarters of declines, "HP has achieved 5 consecutive quarters of year-over-year growth," according to Gartner. What's more, the company's printing revenue grew 2% year-over-year in the second quarter, and it has high hopes for the 3-D and multifunction printers it recently began to ship.

Contrary to analysts' expectations, HP's share price has surged more than 30%, while HPE shares fell about 13% over the 12 months ending in July.

Not that Lesjak compares her company to HPE. "I never really thought about [us] being the stodgy cash cow," she tells *CFO.* "We took the benefits of being separate and we focused on the two businesses that are part of our company: printing and personal systems."

On the revenue side, Lesjak attributes the company's successes to "really rigorous segmentation of the market," finding "pockets of growth" in different parts of the world "where we can bring an incremental value proposition, drive revenue, and get costs down." Indeed, she believes that what she has uniquely brought to the table is "a constant questioning and poking at the ideas that come up to make sure we have a really strong business case."

In itself, it's perfectly fine for a CFO to pursue cost reduction for its own sake. "If you save a dollar, you'll drop a dollar to the bottom line," grants Lesjak. "But if you save a dollar and you reinvest that back into the business in a disciplined way, a returns-based way, that dollar is actually worth a lot more in the future. And that's really what running a business is all about." | **D.M.K.**

Jon Moeller

VICE CHAIR & CFO, PROCTER & GAMBLE

HANDLING THE ACTIVISTS

After 29 years with Procter & Gamble including 8 as its CFO, Jon Moeller has perfected a light touch in answering tough questions. His deftness in steering clear of the controversy that activist investor Nelson Peltz was triggering at P&G, for instance, was on full display during a July 27 appearance on CNBC's "Squawk Box."

MOELLER

That was the morning of the day that Moeller, who had added the vice chairman title earlier that month, and CEO David Taylor told analysts attending P&G's fiscal fourth quarter earnings call that the company had beat its net income of a year ago, posting $2.22 billion in profits compared with $1.95 billion a year earlier.

Moeller said P&G wanted to confine the conversation to the company's financial results and progress toward its goals. It wasn't hard to figure out that the executives weren't keen about discussing Peltz.

Earlier, a CNBC reporter asked Moeller about the activists descending on the company. "We have lots of activism," Moeller answered adroitly, "inside the company." For a moment, he'd steered the conversation away from Peltz to what he called "the biggest transformation in the history of the company," a multi-year effort to streamline its product portfolio, cut costs, and boost productivity.

Moeller's good standing with the investment community should help P&G in the run-up to what's likely to be a fierce proxy fight at its annual shareholders meeting in October.

At this stage, Peltz's bid for a seat on the board and his criticisms of what he sees as P&G's weak shareholder returns, deteriorating market share, and "slow moving and insular culture," seem much less threatening than those of William Ackman. In 2013, Ackman's criticisms of P&G CEO Robert A. McDonald reportedly helped prompt the board to force McDonald out and reinstate Alan Lafley as chief executive.

Moeller's good standing with the investment community, though, should help P&G in the run-up to what's likely to be a fierce proxy fight at its upcoming shareholders meeting. "The consensus view, shared by buy-side and sell-side analysts, is that he's generally well-liked," Kevin Grundy, a senior

Courtesy the companies

vice president with Jefferies, tells *CFO*.

Moeller's grasp of the entire company's businesses may be part of what stands him in good stead with analysts. Before he became CFO in 2009, he assumed roles at an array of the company's business units, including global beauty, health care, and food and beverages.

Grundy praises Moeller's role in cleaning up the company's products portfolio, an effort that cut 16 categories down to 10 and 170 brands to 65. Also praiseworthy are Moeller's work in "securing sensible structures" for deals last year with Coty (providing a discount for P&G shareholders for shares in a new beauty products company) and a transfer of the Duracell business to Berkshire Hathaway.

Challenging as Peltz's actions might seem, they offer Moeller and the other P&G leaders the chance to up their game, says Grundy. He acknowledges, however, that any time shareholder activists get involved with a company's governance it can produce a major distraction.

"Is that a risk? Yes. But my more prevailing thought is that it raises the execution bar," says Grundy. | D.M.K.

Alan B. Graf, Jr.

EVP & CFO, FEDEX

BELOW THE RADAR For nearly 10 years, Alan Graf been in charge of FedEx's global finance functions, from treasury to tax and from internal audit to investor relations. He is also a member of the company's five-person executive committee, which plans and executes FedEx's strategic business activities. Graf has seen FedEx grow from a $16 billion U.S.–centric outfit to a $60 billion, global corporation. And he is on the board of directors of Nike and two other public companies.

Graf is, in part, responsible for what analysts have called "intelligent capital allocation" at FedEx over the past few years, as the company has ramped up investments in new aircraft and distribution. For fiscal year 2018, which began in June, the delivery and logistics company projects capex of $5.9 billion. The money will cover an increase in planned aircraft deliveries for FedEx Express and investments in FedEx Ground automation and expansion of handling capacity.

Graf explained in the company's June conference call that FedEx has "an extremely rigorous process that's designed to ensure that all of our capital expense and acquisition investments will provide strong positive cash flows and increase returns over time. We use very conservative assumptions, and senior management is involved in all capital spending."

Graf was also involved with FedEx's clever move to issue debt to fund its pension obligations. In January 2017 it floated $450 million in 10-year debt and $750 million in 30-year debt. About $1 billion of the proceeds will go to help fund FedEx's $23 billion U.S. pension obligations.

Things at FedEx don't always run so smoothly, however. In June the global cyber attack known as NotPetya struck. The ransomware infiltrated the systems of TNT Express, a $4.8 billion acquisition of FedEx's that operates in the Ukraine and has delivery operations in the Middle East, Africa, Asia-Pacific, Europe, and South America.

A month-and-a-half after the attack, customers were still experiencing service and invoicing delays, and TNT was still using manual processes in operations and customer service. FedEx said at the time that it was reasonably possible TNT wouldn't be able to fully restore all of the affected systems and recover all of the critical business data that was encrypted by the virus. In August, FedEx disclosed that the cyber attack would have a material financial impact on its earnings. It also said it did not have cyber insurance that covered any portion of the losses from the attack.

GRAF

Graf and the other members of FedEx's executive team have to put their heads together to figure out how to fireproof the company's global operations.

While Graf and the other members of FedEx's executive team put their heads together to figure out how to fireproof the company's global operations, they also need to decide whether FedEx is going to continue its torrid pace of share buybacks given the recent price of FedEx stock.

At 63, Graf may be nearing retirement. But given that the company just announced a nearly $600,000 cash award for him based on fiscal 2020 EPS, he's likely to be piloting finance for at least a couple of more years, providing the stability and predictability the company's investors crave. | V.R.

10 More Worth Watching

Though they may be less visible than our top 10, these finance chiefs epitomize finance excellence in a large-company setting.

Paul Jacobson
EVP & CFO, Delta Air Lines
Hardly anyone loves air travel these days. But there is a clear industry winner, financially speaking. In 2016 Jacobson guided Delta to substantially higher operating and net margins than the other major U.S. carriers, American and United, despite lagging way behind in gross margin. It's been the same for years and is again so in 2017. Industry costs are up, but expect continued high-flying efficiency from Jacobson and Delta.

Tara Comonte
CFO, Shake Shack
There are a multitude of downward dips in Shake Shack's stock chart, but the shares are still trading at a price-to-earnings ratio of more than 50. Enter new CFO Comonte, who cut her milkteeth in the advertising world. The Scotland native must find a way to burnish the Shake Shack brand in a tough restaurant environment. Her first mission, though, is more prosaic: bolster the company's inventory, invoicing, and other financial systems.

Vasant Prabhu
EVP & CFO, Visa
China UnionPay surpassed Visa as the world's largest payment-card company in 2015, the year Prabhu arrived from NBC-Universal. Now, with Visa enjoying dominant market share outside China after buying one-time subsidiary Visa Europe last year, Prabhu is preparing to submit a license application to Chinese officials. The CFO's eyes will likely stay trained overseas now that international business accounts for 52% of revenue.

Kevin Wampler
CFO, Dollar Tree
For retailer Dollar Tree, job one is generating value for shareholders from its fiscal 2015, $9 billion acquisition of Family Dollar. While Wampler says the company is on track to achieve $300 million in run-rate synergies, lagging same-store sales at Family Dollar sites present a hurdle. Wampler has boldly said that Dollar Tree is "insulated" from online competition. It will be interesting to see if the company's performance proves him correct.

Colette Kress
EVP & CFO, Nvidia
Kress, CFO of chip firm Nvidia since 2013, has a premium tech pedigree, having been a divisional CFO at both Cisco Systems and Microsoft. Some experts have downplayed her role in this stock market darling's rise, but Kress has earned respect with her absolute command of Nvidia's markets and technology when addressing investors. Two challenges lie ahead: dealing with slowing sales in the data-center segment and deciding what to do with Nvidia's expanding cash hoard.

Ruth Porat
SVP and CFO, Alphabet
Perennially on the list of top U.S. finance chiefs, Porat has brought new financial discipline to Google/Alphabet. She's worked to assign costs to the company's different research and product development units and to alter the company's treatment of stock-based compensation. The company has also already adopted new revenue recognition accounting rules. Google's biggest risk is "complacency, not innovating, not investing," Porat has said. As CFO, that's something she can definitely prevent.

Marc Hamburg
SVP & CFO, Berkshire Hathaway
Berkshire Hathaway's CFO since 1992, Hamburg slipstreams behind superstar investor Warren Buffett and vice chair Charlie Munger. He may not be the first person Buffett asks advice from on an investment, but he has been a key part of keeping Berkshire's varied acquisitions operating profitably. He sits on the boards of Burlington Northern Santa Fe, Lubrizol, Star Furniture, and Precision Castparts, keeping operating income flowing even when Berkshire's investment and derivative gains lag.

Leeny Oberg
Sr. EVP & CFO, Marriott International
For Oberg it was a wild first year as Marriott's finance chief in 2016, with the company buying Starwood Hotels & Resorts last September for $13 billion. Integrating the two big chains, which combined to form the world's largest hotel company, will remain a top priority for Oberg in the coming months. Meanwhile, she's challenged by an environment in which financing for new hotel construction is tight amid growing equity requirements by investors.

Richard Galanti
EVP & CFO, Costco Wholesale
Experts say Costco is shielded from the problems plaguing other bricks-and-mortar retailers; Galanti knows better. Only 9% of Costco's sales come from e-commerce; its strength is a membership model that caters to people who enjoy shopping for bulk goods (at low prices) in its warehouses. But Amazon's acquisition of Whole Foods means a whole new level of competition. Shareholders are hoping Galanti and his colleagues can at least keep Costco "Amazon-resistant."

Christine McCarthy
EVP & CFO, Walt Disney
"If you succeed at everything you do, you're probably not trying hard enough," McCarthy told students in April at the UCLA Anderson School of Management. It's an apt perspective, as few companies try as many things as Disney, which certainly has tasted failure amid its many successes. A 17-year company veteran who became CFO in 2015, McCarthy's priorities include resuscitating ESPN and squeezing more profits out of Disney's international theme parks.

Courtesy the companies

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SPECIAL REPORT

Operational Risk

Data Held Hostage

The damage inflicted in this year's ransomware attacks will force corporations to review their IT resilience. **By Vincent Ryan**

Think cyber scammers that perpetrate ransomware attacks are easily defeated? Note this: When the WannaCry ransomware epidemic struck in May 2017, scammers doubled down by targeting people who were already attacked and who were scrambling to retrieve their encrypted data. They sent them emails offering data protection, services that could prevent future attacks, and bogus WannaCry patches, all in an attempt to steal the beleaguered users' personal information.

Another example happened in June, when a ransomware attack going by various names and featuring numerous variants crippled the networks and operations of several multinationals:

- At Reckitt Benckiser (the company behind the Nurofen painkiller and Durex condoms) the Petya ransomware virus rendered useless 15,000 laptops and 2,000 servers—in less than an hour.
- At pharma giant Merck, sales representatives had to keep a paper record of their work and use a makeshift email server accessible only via a web browser. In late July, some of the company's manufacturing operations were still not functioning normally.
- At Copenhagen-based shipping giant A.P. Moller-Maersk, computer outages at the company's APM Terminals in several locations meant cargo loading and unloading had to be tracked manually; some ports had to stop taking new cargo for several days.
- At San Francisco radio and television station KQED, which has 350 employees, the disruption to operations lasted a month, blocking access to live data feeds and forcing show segments to be timed with a stopwatch.

After June's incidents, will ransomware, a kind of malicious software designed to block access to a computer system until a sum of money is paid, be considered a serious operational risk? Will companies devote the capital and effort to protect against it?

It's actually deceptively easy for companies to protect against ransomware, but obviously not all of them have done it. In a May 2017 blog post, Alexander Volynkin, a senior research scientist at the Software Engineering Institute of Carnegie Mellon, wrote that ransomware continues to proliferate simply because "users have not been properly trained or made aware of the dangers of opening malicious email attachments." (Phishing emails to unsuspecting employees are how most ransomware is delivered.)

"Cloud-based disaster recovery capabilities are much more comprehensive than traditional hardware-based backup [methods]..."
—Roy Golding, CFO, Zerto

In addition, on the other side of the transaction, the perpetrators are getting more skilled at "social engineering." Gone are the misspellings, bad punctuation, and unknown "from" addresses that made malicious emails easy to identify. "Advances in online translators and spell-checkers help in crafting appealing phishing narratives, while it has become increasingly difficult for a user to identify spoofed email addresses," wrote Volynkin. (See "Repelling Ransomware," page 40.)

The single most effective deterrent to ransomware? Regularly backing up and verifying a system, says Volynkin. However, "backups should be stored on a separate system that cannot be accessed from a network and updated regularly to ensure that a system can be effectively restored after an attack."

Assessing a company's ability to recover its data and systems and making changes to be better prepared for a ransomware attack require an organization to move beyond the two-dimensional approach of detecting and preventing intrusions, says Roy Golding, CFO of Zerto, a provider of business continuity software. The new approach must focus, at least in part, on building a resilient IT infrastructure.

Thinkstock

"Having an actionable disaster recovery plan in place can make it easy to rebound after an attack with just a minimal impact on business operations," according to Nitin Donde, CEO of Talena, a data management software provider. "The most important measure one could take in this regard is to have a rigid security hygiene," he says.

At the user level, that means "exercising judgment and prudence while dealing with unknown data," such as emails, attachments, PDFs, and JPEGs. At an organizational level, it means ensuring every user "is running the most up-to-date [operating system] versions and that incoming and outgoing data are properly vetted using state-of-the-art security procedures."

Donde says the second line of defense should be "a rock-solid backup architecture." As he explains it, historically, OS vendors have been slow to catch up to new and evolving security threats. Consequently, there's always a short window of opportunity for attackers, when they can hack into systems and take control of critical data and applications before the OS vendors have had the opportunity to release a security patch. (The WannaCry and Petya ransomware attacks in May and June took advantage of vulnerabilities in an older Microsoft OS.)

"Having a backup architecture that involves making multiple point-in-time copies of data across geographies provides protection against such eventualities," according to Donde. "Moreover, the backup architecture must be smart enough to make copies of not just the data but the metadata as well. An organization that was backing up data and metadata in this manner would have been impervious to all of the recent ransomware attacks."

Cloud platforms can be used to increase the mobility and protection of mission-critical data and applications, says Zerto. The cloud makes the recovery process easier, faster, and more affordable, he notes. In addition, "cloud-based disaster recovery capabilities are much more comprehensive than traditional hardware-based backup and constrained physical IT environment methods," Zerto explains.

The CFO's Role

CFOs are a key part of keeping IT operations resilient. They need to meet regularly with CIOs to examine IT risks and how to mitigate them, says Zerto. They have to evaluate whether the CIO has adequate resources. And they must determine if the business can continue to grow and scale while maintaining an effective disaster recovery strategy.

When revamping disaster recovery plans or evaluating new or existing supporting technologies, Zerto says, CFOs and CIOs need to ask themselves multiple questions, including:

- Can the organization recover (i.e.,

Repelling Ransomware

Here are five fundamental steps your company can take to curb its chances of falling victim to a ransomware attack.

1 Adopt prevention programs. Prevention training and awareness programs can help employees recognize telltale signs of phishing scams and how to handle them. Guide employees on how to recognize and avoid fraudulent e-mails. Keep testing internally to prove the training is working.

2 Strengthen e-mail controls. Make sure the organization has strong spam filters and authentication. Scan incoming and outgoing e-mails to detect threats and filter executable files. Consider a cloud-based e-mail analytics solution.

3 Improve your CMDB. Companies need to be very diligent about building a complete configuration management database. It may be surprising, but most companies do not know all the IT systems in their environment across all subsidiaries and business lines. If you don't know what you have, how can you protect it?

4 Insulate your infrastructure. There are a host of solutions, from removing or limiting local workstation administration rights to seeking out the right configuration combinations (including virus scanners, firewalls, and so on). Regular patches of operating systems and applications can foil known vulnerabilities.

5 Plan for continuity. Having a strong business continuity plan for recovery—one that's regularly reviewed, updated, and tested—makes it easier to avoid paying ransom. Recovery objectives must be aligned to the critical tasks within an acceptable timeframe. Workstations and file servers shouldn't be constantly connected to backup devices. Further, the backup solution should store periodic snapshots rather than regular overwrites of previous backups, so that in the event of a successful attack, backups will not be encrypted. | **KELLY BISSELL**

Kelly Bissell is a managing director of Accenture Security.

"rewind") back to a point in time just seconds before an IT outage occurs? Is it able to get critical data, applications, websites, and individual files operational within minutes?

• Is the organization able to successfully and quickly run disaster recovery tests with a high degree of automation, or does such activity require long lead times, a large support team, and expensive consultant resources?

• Does the company's existing infrastructure and disaster recovery technology stack give it the flexibility to achieve continuous data protection with block-level replication and enterprise-class scalability?

Will CFOs and CIOs get pressure to start answering these questions, if they haven't already? After May's globally coordinated WannaCry ransomware attack, which also disrupted some multinational organizations, BDO Global's cybersecurity group called on boards of directors to "immerse themselves in the cyber issue and allocate sufficient resources to identify and ensure the effective management of cyber risks." As to what a board is responsible for, the group noted that "a board's accountability includes the way organizations protect, detect, respond, and recover; boards have to lift their organizations to the appropriate level of cyber resilience."

The Aftermath

After the June attack, Reckitt Benckiser stated that it had "significant" cybersecurity measures in place and that it was "reviewing what further measures [could] be implemented" to minimize both the likelihood and potential impact of any future cyberattacks. Maersk, meanwhile, said it was conducting a "forensic investigation" into the attack and that "different and further protective measures" have been put in place.

But will these and other organizations go further, educating employees about ransomware and putting in place comprehensive plans to keep IT operations resilient? The answer is not clear. Economic incentives usually drive companies' behavior related to cybersecurity. So even a major disruption like June's far-reaching ransomware incidents may not push cybersecurity up the priorities list—at least not to a point that warrants review by a board of directors.

"Unfortunately, there's little market incentive for executives to take their focus off of growth and profits to worry about breaches," wrote Kevin Magee, global security strategist at Gigamon, on CFO.com. "Even though hundreds of millions or billions of customers may be affected, their companies' stock prices during and after the disclosure of high-profile data breaches may decrease only slightly and often quickly recover." (See "Valuing Cybersecurity," this page.)

The companies affected in June did suffer minor financial hits: Maersk said the costs for dealing with the ransomware outbreak would be in the $200 million to $300 million range, and Reckitt Benckiser estimated that it would lose about £100m ($129 million) in revenue in 2017.

They would be remiss to not spend heavily to fortify their IT operations, because cyber scammers will keep trying to find a way in. CFO

Valuing Cybersecurity

Some of a company's most valuable and vulnerable assets don't even appear on the balance sheet. How much is a company's email database really worth? Probably not much in conventional accounting terms, but consider what its value might be if it were completely locked down and made inaccessible by ransomware.

To even begin to place a proper value on cybersecurity, CFOs need to ask some hard questions:

• What are the company's most valuable digital assets?

• Where are they are physically located, and who owns the hardware they're stored on?

• Does the company have a means of understanding and communicating what they are actually worth?

• Who has access to them and how is access controlled?

• How financially damaging would it be if they were hijacked or stolen or if the company were completely denied access to them?

• If the company were hit with a catastrophic attack that shut down its most vital operations for a few weeks, perhaps a month, how would the organization recover? Would the company even continue to exist?

| KEVIN MAGEE

Kevin Magee is a global security strategist at Gigamon, a network-visibility and traffic-monitoring technology vendor.

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Getting Over Hurdle Rates

Two-thirds of finance executives say they don't invest in some projects that exceed their minimum acceptable returns. Why not? By Josh Hyatt

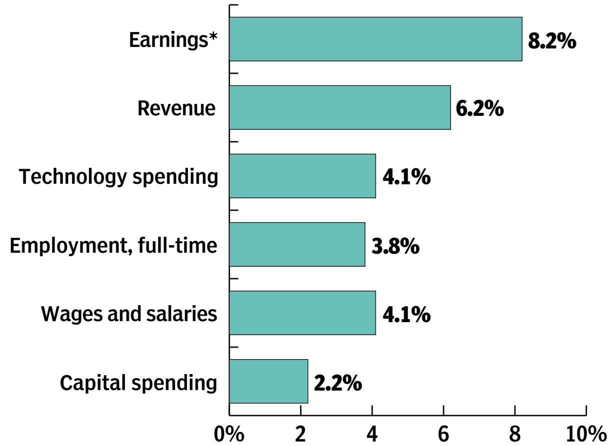
As upbeat as CFOs may feel about the growth prospects for their own companies and the broader economy, they have yet to loosen the criteria they use for making investment decisions.

In the second-quarter Duke University/*CFO* Magazine Global Business Outlook Survey, which collected responses from 750 senior finance executives, respondents revealed that they have maintained unusually high—even unrealistic—hurdle rates, or the minimum return they expect from any project they opt to invest in.

While expectations for U.S. earnings growth, technology spending, and revenue have declined slightly since the previous quarter—the most significant decrease being revenue projections, from 8.1% to 6.2%—expectations for capital spending increases have declined, from 5.8% to 2.2%. Among prospective strategic investments, presumably, few offered enough potential to clear existing hurdle rates.

U.S. CFOs Envision A Moderately Sunny Future

Expected growth in next 12 months



*Earnings responses are from public company CFOs only. All other data are for all 357 U.S. survey respondents (including private).

Note: The reported averages are weighted by revenue or number of employees, so large firms are weighted more heavily.

Source: Duke University/*CFO* Magazine Global Business Outlook Survey, Q2 2017

According to the survey, the median hurdle rate U.S. companies use to evaluate investment projects is 12.0, while the mean is 13.6. Companies typically review and revise their hurdle rate to keep it below what it costs them to borrow money, hoping to ensure a robust return. The cost of capital, however, first began falling in the wake of the 2008 financial crisis, when the Federal Reserve pushed interest rates to zero, and has only recently begun to edge up ever so slightly. Hurdle rates, apparently, haven't lost altitude, which may mean that an abundance of corporate investments can't be cleared for takeoff.

Among survey takers, the median weighted average cost of capital (WACC) stands at 9.8, with the mean at 10.6, indicating that finance executives have been reluctant to lower their hurdles to suit the changed environment. (Companies often use the WACC as their hurdle rate, raising it for riskier projects.) Assuming CFOs are not distracted drivers—of business growth—they may be routinely passing up value-enhancing opportunities.

Whatever the reason, it's not because they feel especially anxious about the U.S. economy's overall prospects. The Duke/*CFO* optimism index for the U.S. is at 67 on a 100-point scale, far above the long-run average of 60. As of the second quarter, U.S. respondents expect earnings growth of 8.2% during the forthcoming 12 months, a marginal move downward from the 8.6% they projected in the first quarter. Growth in hiring, projected at 1.7% a year ago, has risen steadily since the last quarter of 2016, with respondents now anticipating a 12-month increase of 3.8%.

Low Interest in Investing

The consequences of relying on a poorly conceived hurdle rate aren't just that the company will miss out on some winning bets. The misallocation of capital ultimately creates inefficiencies. Investing in less-than-suitable projects, for instance, mars productivity.

Of course, it could be that finance executives haven't tinkered with their hurdle rates because they assume that interest rates might skyrocket at any time. The low cost of capital, they may be reasoning, is both artificial and temporary. Feasting on cheap money could leave companies overstuffed when interest rates climb, saddling them with investments that they can no longer support.

But the abnormally low-rate environment has lingered for several years. Granted, interest rates have begun creeping upward, thanks to action by the Federal Reserve. That said, given the anemic inflation rate of under 2%, the central bank may slow the pace and number of rate hikes for the rest of 2017 and 2018. The survey finds that U.S. companies have tapered their expectations for raising their own prices over the next 12 months, from 3.0% last quarter to 2.5% in this survey.

Higher hurdle rates, and the underinvestment that results from them, typically reflect management's level of uncertainty about the future. Since they are usually used to assess longer-term strategic investments, the return on such projects is measured against assumptions about what the cost of capital will be over the entire life of the project. Senior finance managers may be funneling their own qualms into their hurdle rates, fearing that the cost of capital will increase in the medium to long term. Or they may have reason to doubt the accuracy of their own forecasting process.

As the global economy struggles to find a secure economic footing, finance executives may be justified in hesitating when it comes to evaluating a project or investment's viability in the context of future economic conditions. In the survey, more than one-third of respondents (36%) say that their companies face a higher-than-normal level of uncertainty. Nearly 60% of those respondents say that uncertainty will lead their companies to grow at a slower pace or to delay expansion plans.

26.2%

CFOs who say their company pursues all projects that are expected to earn a return higher than their hurdle rate

Barriers to Hurdling

As part of the survey, senior finance executives were asked to select the reason that prevents their companies from pursuing projects that they have calculated as capable of creating value. The most common answer, chosen by about half (51%) of finance executives, is "shortage of management time and expertise," a broad catch-all that covers a multitude of reasons, from lack of confidence in assessing risk in new markets to a shortage of the skills necessary to turn an investment into a product. By comparison, for example, African finance executives attribute their limited ability to pursue value-creating projects to a more concrete obstacle: shortage of funding.

The United States is the only region to rank the "shortage of management time and expertise" explanation so high, says John Graham, professor of finance at Duke University. "This suggests that U.S. managers are working full-tilt, or that there is a tight labor supply in terms of skilled managers," or both, he says.

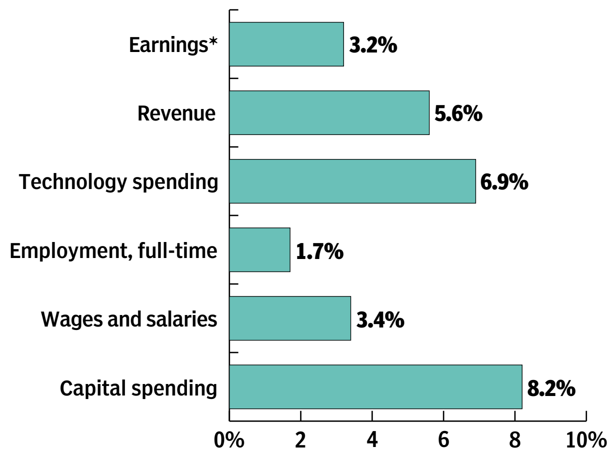
The other choices that sizable numbers of U.S. respondents select include "project is not consistent with company's core strategy" (41%) and "the risk of the project is too high" (39%). Almost 38% cite a shortage of funding and almost 32% a shortage of employees. Some respondents offer more-specific reasons: "activism's influence on capital allocation," the "general conservative nature of executive management," too many years "to recover investment," and "ever-changing consumer demand and government regulations."

But the reasons given don't fully explain why so many senior finance executives seem to disregard hurdle rates when making high-stakes strategic investment decisions. In the survey, a massive 67% of respondents answer "no" when asked if their company pursues all projects that are expected to earn a return higher than the hurdle rate. Only about one-fifth of respondents reply in the affirmative.

It may be that the hurdle rate itself is the problem. Senior finance executives face dangers when relying on a hurdle rate that hasn't kept pace with the fast-moving economy. As the survey finds, it's far too easy to come up with a hurdle rate that is well worth ignoring. CFO

European CFOs Project Spending To Outpace Earnings Growth

Expected growth in next 12 months



*Earnings responses are from public company CFOs only. All other data are for all 130 European survey respondents (including private).

Note: The reported averages are weighted by revenue or number of employees, so large firms are weighted more heavily.

Source: Duke University/*CFO* Magazine Global Business Outlook Survey, Q2 2017

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FIELD NOTES

Perspectives from CFO Research

Dealing with a Deficit (of IT Talent)

A technology talent shortage is impacting companies and boosting the value proposition of managed IT services. By Chris Schmidt

Middle-market companies are struggling to attract and retain technology employees—and looking to managed IT services providers and the cloud for help in meeting the talent shortfall.

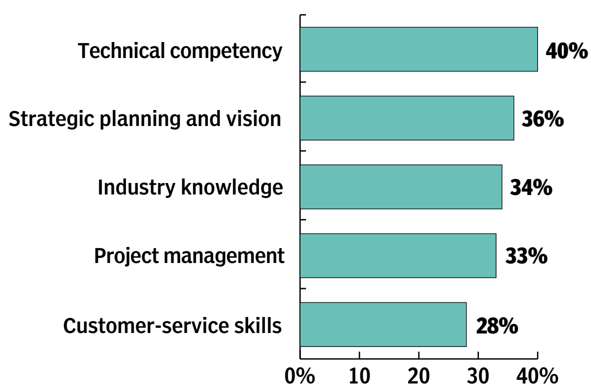
A recent CFO Research survey of 123 U.S.–based middle-market senior finance executives, conducted in collaboration with RSM, finds that about half (49%) of the finance chiefs say the inability to attract and retain qualified technology talent adversely impacts them. Survey respondents represent firms with annual revenues between $25 million and $200 million, and a plurality of respondents (35%) carry the title of CFO.

The fallout from the talent shortfall extends far beyond the IT department. Finance chiefs who report a talent-shortage impact indicate that the business functions most severely affected in their organizations are operations (cited by 64% of those reporting talent woes), finance (36%), IT (36%), customer service (27%), sales and marketing (27%), and product development (12%).

Asked to identify their most difficult IT-related talent issues, 40% of the survey respondents say pure "technical competency." A close second is the 36% who cite "strategic planning and vision." "Industry knowledge" (34%), "project management" (33%), and "customer service" (28%) follow closely behind. (See Figure 1.)

FIGURE 1

What are the most difficult talent issues you have related to your current IT staff?



Multiple responses allowed

External Affairs

What are companies doing to address the shortfall? An increasing number are turning to managed IT services to bridge the gaps in their own IT workforce, with generally favorable results. The speed of technological change, combined with the ubiquity of business process outsourcing after decades of refinement, appears to have given finance executives a much stronger appreciation for outsourcing IT functions than they once had.

More than two-thirds of the finance executives surveyed—69%—say a trusted managed IT services provider can do a better job of delivering IT services than a typical company can do on its own. And 60% now say they would be comfortable having a managed IT services provider deliver all of their company's IT functionality.

In addition, as managed IT services have matured, the benefits of outsourcing the information technology function have become broader and, in some cases, more strategic. Many CFOs now see better capabilities, not simply lower costs, as the key benefits of IT outsourcing.

Demonstrating that shift, finance chiefs say that the top advantages of outsourcing IT activities today are "freeing internal resources for other purposes" and "gaining access to world-class capabilities"—benefits that 57% and 50% of the survey respondents cite, respectively. These are followed by "streamlining or increasing efficiency for time-consuming functions," which 45% of the respondents choose. "Reducing and controlling costs"—which not long ago would have been far and away the top reason companies gave for moving to an outsourcing model—now comes in fourth place, at 32%. (See Figure 2.)

Fear not, however, that CFOs have completely lost their skepticism about this issue. Despite the clear benefits of outsourcing that respondents identify, there continue to be lingering concerns among some finance executives about outsourcing IT functions. The top concerns the survey identifies are costs (indicated by 52% of respondents); the provider's ability to understand the company's businesses and key systems (50%); service quality (47%); and risks associated with a partner security breach (39%). The bar remains high, in other words, in the eyes of the CFO.

However, the fears of finance leaders are more than compensated for by the need to respond rapidly to business and technology changes. Survey respondents say their companies see clear value in implementing technologies such as mobile applications (69% of respondents); big data and predictive data analytics (45%); social enterprise (24%); Internet of Things (24%); artificial intelligence/machine learning (21%); and virtual/augmented reality (13%). All of those technologies benefit from the scalability, agility, and cost environment of a managed IT setting, supported by the cloud. Ready or not, here we go.

50%

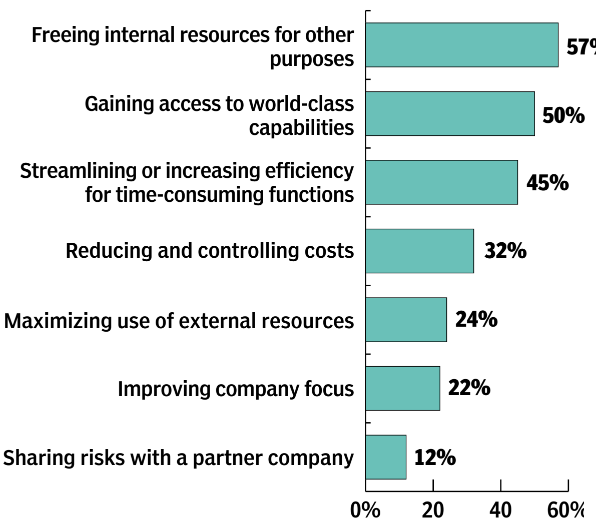
Senior finance executives concerned about an IT service provider's ability to understand the company's businesses and key systems

Move to the Cloud

Survey respondents indicate that one strategy they are using to manage their way through the IT labor shortage is moving some or all of their IT operations to a cloud-based environment, which reduces or eliminates the need to source, manage, and maintain computer hardware and software.

FIGURE 2

What are the biggest potential benefits you would realize from outsourcing some or all IT functions to a trusted managed IT services provider?



Multiple responses allowed

And many companies that have already migrated basic IT functions to the cloud are now looking to tap a higher-value potential. More than half (53%) of the survey respondents say their companies are already using cloud-based services for fundamental applications such as data storage and network hosting. About 41% are using cloud-based office productivity software and 37% are using cloud-based financial systems. Migrating higher-value activities to the cloud is proceeding more slowly—for example, only 16% of survey respondents say their companies use cloud-based data analytics systems, and only 10% have migrated marketing automation to the cloud. However, those percentages are likely to grow as cloud-connected data augments the value that cloud-based versions of those applications can deliver.

In areas in which their organizations haven't yet embraced cloud services, finance executives say their biggest concern by far is data security, which 69% of the survey respondents cite. About 53% cite privacy issues. Nearly 4 in 10 respondents—39%—say they are concerned about the costs associated with cloud services. Loss of control and performance risk are a source of unease for 37% of survey respondents.

Given how widely held these worries are, it's not surprising that a clear majority of finance executives say it's important to use the services of a third-party expert in nearly all phases of implementing a cloud strategy, including needs analysis and strategic planning (57% of respondents); architecture and design (65%); and implementation (72%). Nearly half—48%—of the survey respondents also say a third-party expert is needed for ongoing support and monitoring of any cloud initiative.

In sum, the survey's results suggest that while cloud providers have work to do on building trust in their security and privacy protocols, the migration to cloud services that has gained so much momentum over the past decade is unlikely to reverse direction. Already, much of the new software being created is designed expressly to deliver specific benefits enabled by a cloud environment. As the business value of moving to the cloud becomes clearer, those benefits, combined with a better awareness of available security tools, should offset any perceived risk for many potential users.

The ultimate goal of most corporate technology strategies is not simply to replace current functionalities but to enable future ones. It's clear from the survey that finance chiefs believe managed IT services and the cloud both have a role to play in those objectives. CFO

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Career Census

When it comes to schooling and experience, there's no such thing as a "typical" CFO, except that they tend to be well-educated and, still today, a majority are men. How much do you know about the backgrounds and careers of the top finance executives at the 250 largest publicly held U.S. companies? Take our quiz to find out.

1 What percentage of the CFOs at *Fortune* 250 companies are women?

A. 11%
B. 21%
C. 18%
D. 14%

2 Which undergraduate school did the greatest number (8) of the 250 CFOs get a degree from?

A. Stanford University
B. University of Illinois
C. University of Michigan
D. Georgetown University

3 Which graduate school did the greatest number (20) get a degree from?

A. University of Chicago
B. Harvard University
C. Stanford University
D. University of Pennsylvania

4 What percentage of the CFOs has a graduate degree?

A. 58%
B. 75%
C. 84%
D. 92%

5 What percentage of the CFOs has an accounting degree?

A. 32%
B. 40%
C. 47%
D. 53%

6 On average, how many years have the CFOs worked at their current company, in any capacity?

A. 5
B. 7
C. 10
D. 14

7 On average, how many years have the CFOs been in their current role?

A. 3
B. 4
C. 5
D. 6

8 What percentage of the CFOs has international experience?

A. 50%
B. 57%
C. 64%
D. 73%

Answers: 1–D; 2–B; 3–A; 4–C; 5–A; 6–D; 7–C; 8–B

Source: SGA Talent; data as of July 17, 2017. Photo from Thinkstock.

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