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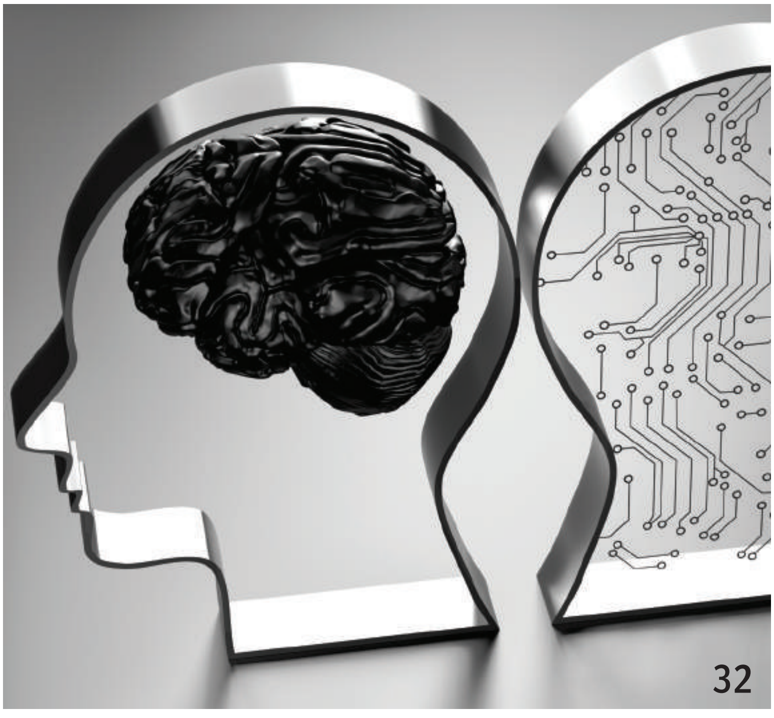

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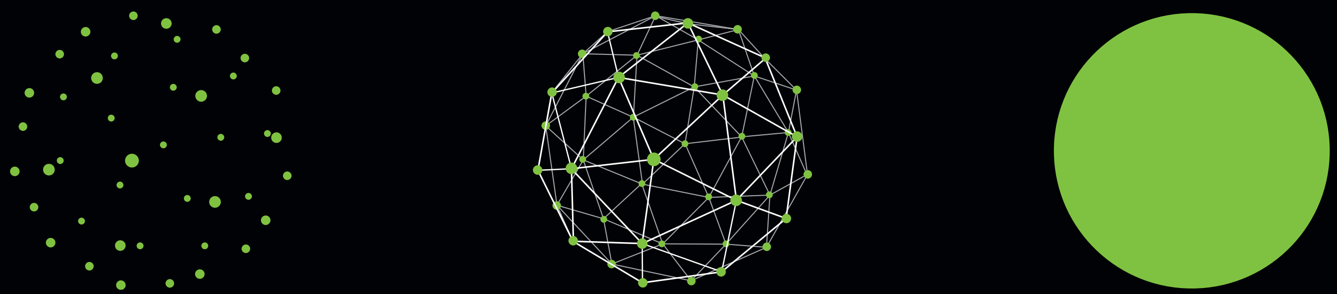

FROM THE EDITOR

Technology Won't Save You

CFO has heralded the transformative power of information technology for years; that idea was one of the catalysts for the magazine's founding. But a recent post on LinkedIn, "What's Driving the Trajectory of the CFO Role?" got me thinking: Have we become too wrapped up in technology's potential to change the job of the CFO?

The writer of the post is Andy Burrows, an international finance executive who runs superchargedfinance.com. Burrows isn't impressed by the technology that the financial press claims will drastically change finance: robotic process automation is just a "glorified macro," he says. Artificial intelligence, he suggests, is just a "rebadge" of machine learning.

His most salient point is this: The CFO role has not changed because of technology; it has changed because of technology's impact on business, economics, and management.

Why is understanding the driver important? "If we believe that it's finance technology, then the CFO must become a master of technology," writes Burrows. "If we believe that it's the technological revolution in business, economics, and management ... then the CFO must become a master of business."

I think Burrows' argument makes perfect sense. Technology is an enabler, a tool that allows finance to cut headcount or forecast cash flow better. Or maybe it's the foundation of a product or service. But it's not what ultimately makes companies thrive.

Is technology going to save the MoviePass business model? Did it prevent General Electric from overlooking massive insurance liabilities on its balance sheet? Did it give Hewlett-Packard the smarts to walk away from a disastrous $11 billion acquisition?

In all of the above cases, what the business needed was someone who could spot real risks, a "numbers person [who was] commercially astute right at the heart of the planning and decision-making," as Burrows puts it.

Translation: a highly capable, business-savvy CFO. No matter what kind of revolutionary IT products get developed, that need will never change. For most CFOs, that should be good news.

Vincent Ryan
Editor-in-Chief

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EDITOR'S PICKS

MANAGEMENT
In "To Improve Your Team, First Work on Yourself," Jennifer Porter of The Boda Group says leaders must master foundational capabilities, like internal self-awareness—becoming more aware of their own feelings, beliefs, and values—to be successful. See more on the Harvard Business Review website.

THE ECONOMY
Do we need a metric other than gross domestic product to accurately track U.S. economic activity? Economist Mariana Mazzucato contends that "we don't really understand how to measure value in the economy, so we don't even realize how sick the economy is." See the podcast on the Knowledge@Wharton website.

DIVERSITY
In corporate settings, 20% of women are commonly the only person of their gender in the room, or one of very few. That has plenty of downsides: they are more likely to have their judgment questioned, for instance, or be subjected to demeaning remarks. Read "One is the Loneliest Number" on the McKinsey Quarterly website.

Mark Bennington

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BEYOND FAST

The CFO.com version of **"The Federal Government Does Not Need Revenue"** (see page 20) drew an avalanche of responses. Almost literally, it seems, everyone has an opinion on Modern Monetary Theory (MMT), the subject of the article.

In it, Stony Brook University professor Stephanie Kelton argues that the growing national debt is not the economic disaster most people believe it to be—that a government that issues the national currency can issue any amount of it, which will actually stimulate the economy.

Here's a sampling from the mailbag:

"This idea has been debunked many times. Take a good look at the weaker EU countries that are in economic trouble. Bankruptcy occurs when you cannot pay your debts and can no longer borrow the shortfall. This can happen to the United States."

"EU countries use the euro. Therefore they are currency users, not currency issuers."

"Everything in MMT is a centralized planning of resources and not market based, or it at least ignores market controls. It's simply a fairy tale with a magical device."

"It's pretty tough to get past [Kelton's] argument that people have been scared about the national debt for 100 years and there really have not been any ill consequences whatsoever."

"The U.S. government can always issue the funding to cover obligations like Social Security. The question is whether there will be ample real goods to cover demand."

"People like to debate facts, such as that U.S. federal taxes do not fund government spending, but that's like debating whether the Earth is round."

"Try understanding supply and demand outside of a fairy tale environment where some altruistic cult of the wisest economists who have ever lived provide everything for everyone in the most equitable way possible."

"We're in a mess at the moment, but it's not because of the deficit; it's because our politicians are barking mad."

"The federal government doesn't need revenue—but if you want to buy a can of caviar, it'll cost you the entire nation's money supply."

"If the government chose to, it could issue currency to spend on anything. Oh, wait—it already does that. It's what happens when a government shutdown nears and Congress passes an emergency spending bill."

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Disability

Life

STATS OF THE MONTH

CREDIT CONDITIONS

24
Basis point difference between 3-month and 10-year Treasuries*

78%
Credit portfolio managers who expect North American defaults to rise in the next 3 months

$2 trillion
Corporate debt maturing in the next 5 years

43%
Drop in 2018 speculative-grade bond issuance

3.3%
Consumer bank card default rate

Sources: Federal Reserve, IACPM, S&P/Experian
*As of January 29

TOPLINE

COMPENSATION

Netflix Splurges on Top Execs' Salaries

Might executive pay changes, a CFO departure, and steep cash obligations mean the company is near peak valuation? By David McCann

By many measures—revenue growth, share price, new content offerings for customers—Netflix is a juggernaut. Investors and company executives alike have been greatly enriched the past few years.

But is there another side to the story? Perhaps so, suggests a report from Management CV, which provides intelligence on corporate executives to its clientele of institutional investors.

The main warning signs involve changes in executive compensation. Continuing trends of the two prior years, the 2019 pay packages for the company's "named executive officers" are way up from last year's levels—and, except in the case of CEO Reed Hastings, are solidly weighted toward cash salary rather than equity awards.

Not that the equity awards—which are 100% options as opposed to restricted stock—are trivial. "The current combination of large cash salaries and large dilutive option awards asymmetrically skews the future rewards to management and the risks to equity investors," says the report.

According to Management CV, the "large, outlier cash salaries are inappropriate" for a company with Netflix's financial circumstances, "regardless of its growth rate."

Netflix is modestly profitable. But largely because of the costs associated with its energetic development of entertainment content, it had about $3 billion in negative free cash flow for 2018 and expects the same for this year.

Further, Netflix's stock options are fully vested as of the grant date, instead of the more typical gradual vesting over three to five years.

At a company with immediate vesting, executives may be more inclined to "take the money and run" any time the share price is significantly above the options' strike price.

CEO Hastings, unlike his top executives, continues to earn a relatively modest salary. It will be $700,000 for 2019. His upside is in the options, which will have a total grant-day value of $30.8 million. That's a notable jump from last year, when he earned $21.2 million in options plus an $850,000 salary.

Total pay for chief content officer Ted Sarandos will equal that of Hastings this year, but with a different mix of components. Sarandos' pay-plan breakdowns for 2016 through 2019 exemplify the trends of higher pay weighted more toward cash. He will earn $12 million in salary in 2019 and $14.3

million in options. In 2017, he earned $1 million in salary, $11 million in options, and $9 million in bonuses. Netflix scrapped executive bonuses at the end of 2017 because bonus payments became non-deductible under the Tax Cuts and Jobs Act.

Although at lower earnings levels, chief product officer Greg Peters and general counsel David Hyman have also gotten significant salary pay bumps.

The same was true for CFO David Wells, who voluntarily left the company in January after earning a $3.5 million salary and $2.8 million in option awards last year. His successor, Spencer Neumann, will get a lot more: $5 million in salary and $5 million in options this year.

Both the growing cash portion of pay and Wells' exit are signs the company's valuation could be in for a hit going forward, says Renny Ponvert, chief executive of Management CV.

"Why is management taking out all this cash now?" Ponvert says. "Why aren't they content to take most of their pay in something that's linked to the interest of the other investors?"

About Wells departure he notes, "We're always skeptical when a young but seasoned CFO who is doing well bows out at a company with strong performance. Often, it's a signal the company has hit its peak earnings level, or in this case maybe a valuation peak."

Meanwhile, among the biggest headaches for incoming CFO Neumann will be, according to Management CV, an "oppressive debt load."

"Why is management taking out all this cash now? Why aren't they content to take most of their pay in something that's linked to the interest of the other investors?"
—Renny Ponvert, Management CV

As of year-end 2018 Netflix had long-term financed debt of about $10.4 billion, and liabilities amounting to more than $18 billion, both on and off the balance sheet, for the development of future content. Netflix declined to comment. CFO

ACCOUNTING

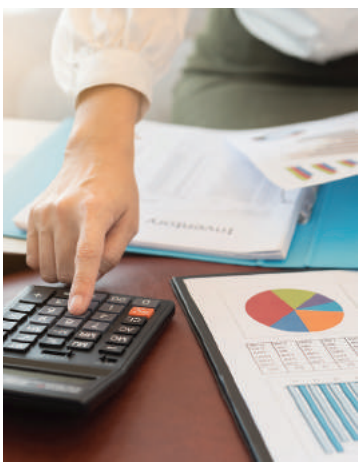
GE Goodwill Write-off Draws Scrutiny

In response, the SEC widens its inquiry into GE's accounting.

Which of two facts about the goodwill impairment charge General Electric took in its 2018 third quarter was more eye-opening?

Was it the size of the write-down? The $22 billion accounting hit was the biggest impairment charge (of any kind) for a U.S. company since ConocoPhillips wrote off $25 billion of goodwill in 2009.

Or was it that the pretax, non-cash impairment related primarily to an acquisition—the power and grid business of France-based Alstom SA—that GE made three years ago?



"We do not see disclosure of goodwill impairments driven by previously unrecognized intangibles very often," Audit Analytics said in a recent report on GE's accounting for the Alstom deal.

Here's a vote for the more startling fact being the amount of the impairment, which was more than twice the $10.1 billion that GE had paid for the Alstom assets. In large part, it "reveals how GE was so keen to get the job done that it paid too much," a *Financial Times* article said.

That may have been an understatement. The Alstom businesses that GE acquired had gross assets of $21.3 billion and liabilities of $23.2 billion.

GE wrote in its third-quarter earnings release that "the size of the charge results from the significant value associated with unrecognized legacy assets, principally our profitable services backlog, long-standing customer relationships, and our gas turbine technology. The value of these assets essentially squeezed out any remaining room for goodwill."

Indeed. GE noted that there was no remaining goodwill associated with its power-generation reporting unit and only $1.65 billion related to its grid solutions reporting unit.

GE was already under investigation by the Securities and Exchange Commission related to the timing of loss reserves charges and revenue recognition practices disclosed in January 2018, Audit Analytics noted.

Now, the SEC has widened the inquiry's scope to include the impairment charge. With all the business challenges and performance issues buffeting GE in the past year, it can ill afford to suffer the worst-case result of the investigation: having to restate years of financials. | D.M.

Source: Getty Images

DISCLOSURE

Execs Must Reveal Stock Hedging

Ideally, a company's executives and directors receive incentives that align their interests with those of shareholders. Equity ownership, of course, is a primary vehicle. But when executives and directors hedge against possible declines in their holdings of company equity, it throws the alignment out of whack.

Many U.S. issuers allow such hedging and until recently didn't have to disclose much about it to investors. In December 2018, however, the SEC approved a final rule requiring companies to disclose whether they permit executives and directors to engage in transactions that mitigate or avoid the incentive alignment associated with equity ownership.

Under the rule, issuers must describe any practices or policies regarding employees' or directors' ability to "offset any decrease in the market value of equity securities granted as compensation or held directly or indirectly."

The SEC said a company could satisfy the requirement by giving a fair and accurate summary of the practices or policies. That includes the categories of persons the policies affects and the categories of hedging transactions that are specifically permitted or specifically disallowed.

If a company does not have any such practices or policies, the rule requires it to disclose that fact or state that hedging transactions are generally permitted.

The SEC also said companies that prohibit hedging may include that information in their securities trading policies or corporate governance guidelines.

The new disclosures must be provided for fiscal years beginning on or after July 1, 2019. However, companies that qualify as "smaller reporting companies" or "emerging growth companies" have until a year later to comply.

The hedging disclosure rule implements a mandate in the Dodd-Frank Wall Street Reform and Consumer Protection Act. Listed closed-end funds and foreign private issuers are exempt. | VINCENT RYAN

CAPITAL MARKETS

IPO Double Whammy

Thanks to a very volatile fourth quarter, 2018 was not a blockbuster year for initial public offerings. Still, it was a good one.

One-hundred ninety U.S. companies went public, 30 more than in 2017, and total proceeds increased 32% to $47 billion, according to Renaissance Capital, manager of the Renaissance IPO ETF. Both figures were the highest since 2014.

Entering the fourth quarter, the U.S. market was on track to hit the 200-IPO mark for only the fifth time since 2005. Then came the October surprise: big drops in the stock market and large spikes in volatility. In response, IPO activity fell by 66% in the final two months of last year compared with 2017.

The stock selloff also caused the average IPO return for the year to sink to a "measly" 5%," says Renaissance Capital. And the average aftermarket return of last year's IPOs (using the closing price on an IPO's first trading day) fell to -11%, the lowest since 2015.

Equity market turbulence normally puts a significant dent in IPO activity. But then last December 22 the market developed another kink; the federal government shutdown, which furloughed staffers at the Securities and Exchange Commission. That essentially froze the calendar of upcoming listings.

In late January, the president of the New York Stock Exchange said he knew of 90 companies that had filed an S-1 and were awaiting the SEC's approval. In addition, issuers that had previously filed a registration statement with the SEC couldn't engage in discussions with the commission on whether their documents contained all the necessary legal information.

At the end of 2018, Renaissance saw hope for 2019 in the form of "a large backlog of unicorns firmly indicating plans to complete some of the largest-ever IPOs." However, the lengthy federal government shutdown practically ensured a lackluster first quarter. | V.R.

Getty Images (2)

OPERATIONS

Middle Managers' Decisions Slash Profits

Poor operational decisions by mid-level managers can erode profit margins, according to a Gartner report.

CFOs seeking to support these managers should redefine the roles of their finance business partners to more specialized positions focused on individual decision types, according to Gartner.

"An increasing volume of financial decisions in recent years has exposed the lack of rigor employed by most mid-level managers in reaching material decisions," says Gartner research vice president Randeep Rathindran.

In a global survey, Gartner asked 468 middle managers about their operational decisions. More than 6 in 10 (61%) of them reported an increase in operational decision volume, while 57% indicated that such decisions materially impact business profitability.

Moreover, the managers reported a high rate of decisions with material impact that featured exceptions to the operational decision rules set by finance. (See chart below.)

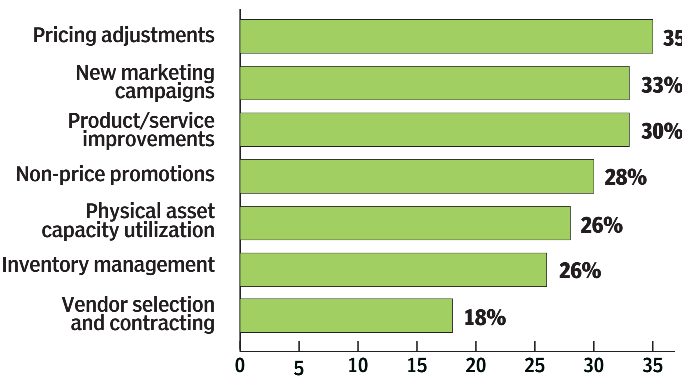
The analysis also revealed many business managers responsible for making such exceptions are operating in a vacuum. Twenty-two percent said they don't consider a single financial implication in such cases. Such laxity can contribute to a $5 billion revenue company sacrificing upward of 3% of earnings.

The current model of finance team members aligning to specific business stakeholders "lacks the level of expertise needed to provide support on the specific decision types faced by mid-level managers," says Rathindran. | D.M.

Operational End Run

Middle managers often make operational decisions that circumvent rules set by finance.

Frequency of exceptions to operational decision rules, by decision category



Source: Gartner survey of 468 middle managers

INVESTOR RELATIONS

Companies Heed Investor Issues

The proportion of the largest U.S. companies that disclosed their shareholder engagement practices climbed in 2018, according to Equilar, a provider of corporate governance solutions.

Within the Equilar 100—a sample of the largest U.S. companies by revenue—59% of companies made such disclosures last year. That was 25% higher than the 2017 number.

The percentage of companies—both large and small—that practice some level of governance engagement with investors continues to increase, according to the report. However, even more companies are actually discussing shareholder engagement practices with investors in some form or another.

While, proposals pertaining to environmental, social, and governance (ESG) issues still represented the largest proposal category, but they were down 30% in 2018.

A possible reason was a significant increase in negotiated withdrawals of submitted proposals, said Lillian Tsu, a partner at law firm Hogan Lovells who provided commentary for Equilar's report.

That change was a result of increasing pressure to support ESG-related issues, Tsu noted. She further explained, "It is likely that many withdrawals were the result of companies' willingness to ... take actions and make additional disclosures in order to appease shareholders on ESG-related demands."

The research results were culled from a manual analysis of 2018 proxy statements filed by large-cap companies. | D.M.

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M&A

Failure to Add Value

The volume of merger and acquisition activity rose in 2018 and is expected to grow further this year. That does not mean, however, that deals were successful last year or necessarily will be in 2019.

The post-deal performance of buyers has steadily declined since a 2015 peak, according to data compiled by Willis Towers Watson (WTW) and the University of London's Cass Business School.

In WTW's quarterly M&A analysis, performance is measured as a percentage change in share price from six months prior to the deal announcement date to the end of the quarter during which the announcement is made.

The global average for 2018 was 3 percentage points below the MSCI All-Country World Equity Index, the second straight year of underperformance after dealmakers outperformed the market in seven of the prior eight years.

What can potential acquirers expect in 2019? Here are the predictions:

Things can only get better. WTW is optimistic the market will bottom out in 2019 and, supported by more clarity over the direction of the U.S. administration and Brexit, allow buyers to achieve better value from deals.

The U.S. M&A market will remain steady, but foreign deals will fall. WTW expects to see a global decline in the number of cross-border deals, because of regulatory constraints fueled by an increasing trend toward protectionism. That will lead

to a more defensive strategy of domestic consolidation.

No uptick is expected in Asia-Pacific. Following an awful 2018 performance, Asia-Pacific acquirers will continue to underperform the overall regional market, featuring muted M&A activity by Chinese companies.

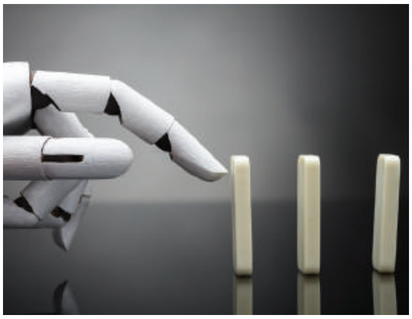
Mega-deals will continue to struggle. The buyers involved in 17 mega-deals (transactions valued at more than $10 billion) in 2018 underperformed the market by an average of 14.5 percentage points. | D.M.

TECHNOLOGY

Digital Investments Increasingly Risky

In this era of digital transformation, the specter of spending unwisely on digital projects has emerged as a significant financial risk for companies.

So says Tim Raiswell, a financial-data analyst and a research vice president at Gartner, who recently completed a broad analysis of first-half 2018 financials and earnings calls.



On the one hand, robotic process automation (RPA) initiatives are generally succeeding at saving money by having robotic software perform rote tasks formerly performed by humans.

On the other hand, many companies are struggling to find impactful use cases for machine learning and artificial intelligence applications.

"There's a lot of machine learning and AI out there," he says. "Is it all attached to clear bottom-line or top-line outcomes? I don't think so. It's more frequently a branding or product feature that gets thrown out there."

In a subset of Raiswell's analysis focused on 10 technology companies, he found the fourth-most-common two-word term used in recent earnings calls was "machine learning."

It appeared more often than terms like "operating margins" that "you would expect to be in an earnings conversation," he says. "It shows how pervasive it has become as a branding strategy. If we're a technology company and some part of our value chain does not involve machine learning or AI, it must mean we're insufficient."

Raiswell says he "knows for a fact" from talking to companies that a lot of them "hear from vendors who come and say, 'Hey, have we got a machine learning or AI solution for you,' and then they struggle to work out what the use cases are."

With RPA, use cases are readily identifiable, which is why the technology is becoming popular.

By comparison, AI typically requires significant customization before it can provide value, which may impact the cost-benefit relationship. | D.M.

Source: Getty Images

TOPLINE

CYBERSECURITY

Seven Charged in SEC Hack

A suspected Ukrainian computer hacker and several traders have been charged in a scheme that made more than $1.4 million. The accused traded on nonpublic information stolen from a U.S. Securities and Exchange Commission database.

The charges resulted from a breach of the EDGAR database that SEC Chairman Jay Clayton disclosed in 2017, raising concerns about financial infrastructure vulnerability.

According to an SEC civil complaint filed in January, Oleksandr Ieremenko of Kiev, Ukraine, hacked into EDGAR and extracted thousands of nonpublic "test filings" containing some companies' submissions of their earnings results.

The stolen data was allegedly transmitted to six traders in California, Ukraine, and Russia, who placed profitable securities trades before the information was made publicly available.

Ieremenko and Artem Radchenko have also been indicted in a parallel criminal case. Radchenko allegedly recruited the traders who were provided with the stolen test filings.

"The defendants ... targeted the Securities and Exchange Commission with a series of sophisticated and relentless cyber attacks," Craig Carpenito, the U.S. Attorney for New Jersey, said.

The EDGAR breach was the second phase of a long-term hacking effort that began with the theft of more than 150,000 corporate press releases from business wire services, generating more than $100 million in trading profits. Ieremenko was previously charged in the newswire hack.

The EDGAR intrusion, the SEC said, involved exploiting the window of time between the submission of a test filing and the subsequent publication of the information contained in the test filing. Corporations use test filings to ensure published results comply with SEC rules.

Ieremenko used a variety of deceptive hacking techniques to create "the false appearance that he was an authorized user of the EDGAR system." | **MATTHEW HELLER**

TECHNOLOGY

Cash Intentions Merit Skepticism

Will companies at long last begin to spend down their cash holdings in the first quarter of 2019 rather than let their cash stores continue to swell, as they've been doing for years?

If you believe what a majority of companies are saying, the answer is yes. But should you believe them? Not necessarily.

In the Association for Finance Professionals' quarterly Corporate Cash Indicators survey, which included 194 participants, the index reading for the first quarter was -5.

The index reflects the percentage of senior treasury and finance professionals who expected their cash and short-term investment holdings to increase in the current quarter (26%), minus the percentage who anticipated such holdings to decrease (31%).

But as AFP's historical data shows, companies frequently misgauge their future cash positions.

When asked the same question in January 2018, survey participants collectively registered a -1 index reading. But three months later, when asked what in fact happened in the first quarter, their result was +18.

It was the sixth time in the seven years AFP has been conducting the survey that a majority of finance professionals in January signaled their intention to deploy cash—and then a majority did the opposite.

"Although it is encouraging that senior practitioners are looking to mobilize their cash, an action long awaited, we can expect that they might not do so," AFP noted in its first-quarter survey report. Specifically, the association speculated that the government shutdown could deter their plans.

AFP added that the relative willingness to loosen purse strings was "surprising," given the stock market's turbulence and "political tensions running high" in Washington. Likely contributing to the positivity were strong employment numbers and the salutary effects of the Tax Cuts and Jobs Act, AFP speculated. | **D.M.**

Getty Images (3)

TAX

Has Tax Reform Really Helped?

One thing became clear as 2018 progressed: the initial elation over the new 21% corporate income tax rate provided by the Tax Cuts and Jobs Act (TCJA) had been a hasty reaction.

Tempering the enthusiasm was the realization that other provisions of the law would significantly cut into the income tax windfall.

It's not easy to decipher what was (and will be) the net impact. A report by Deloitte suggests viewpoints by both "optimists" and "skeptics" in key areas affected by the law.

Business investment. *Optimists:* Capital investment by S&P 500 companies increased by 8.9% in 2018—the highest rate in seven years, which the Congressional Budget Office attributed partly to the TCJA. *Skeptics:* The CBO projects that the law's effects on business investment growth will wane between 2019 and 2022.

Economic growth. *Optimists:* The CBO revised upward its estimates for economic output, forecasting that the TCJA would boost average annual real GDP 0.7% over the 2018-2028 period. *Skeptics:* The federal deficit ballooned in fiscal 2018 by 17%, reaching $779 billion. That, plus expected higher inflation stemming from the tax stimulus, could impinge economic growth, Deloitte notes.

Wages. *Optimists:* In 2018, due partly to tax-code changes, average hourly earnings increased by 3.1%. *Skeptics:* Wage growth was below what most economists expect from a strong economy. During the 1990s economic boom, growth was regularly 3.5% to 4%.

The workforce. *Optimists:* The same tax-code changes that gave consumers more disposable income caused companies to increase hiring. By year-end, the unemployment rate stood at just 3.7%. *Skeptics:* The labor force participation rate barely moved in 2018, remaining at about 63%.

In summary, Deloitte offered that "although the new tax law's journey through Congress may have felt like a sprint, navigating the impact of tax reform is clearly turning out to be a marathon." | D.M.

The 5 Stages of Business Distress

No matter how grim things become, it's important to face each level of distress as soon as it arises. By Carl Sekely and Michael Walsh

Economic headwinds are building on the horizon, and if your business is impacted it's best to face the situation early and with full transparency. For companies that do so, decisions to take on additional risk to be transformative, or to effectuate a turnaround, tend to be well-received and supported by boards, lenders, and other key stakeholders.

Here are the five stages of business distress and the challenges they present for company management.

Stage 1: Early Warning Signs

Early warning signs of business distress are often written off as insignificant. But in many cases, not only should these signs be taken seriously, they also present an opportunity to transform the business.

Typical early indicators of distress include liquidity issues, overdrafts, out-of-formula borrowings, and unscheduled stretches in payables. Other, more operational-type signs include excessive or unplanned overtime, expedited or missed shipments, loss of a key customer, or increased employee turnover.

Whatever the causes, the issues must be addressed before the business encounters even more extreme levels of distress. This is the time, while in full control of the business, to reassess strategic positions and business plans, including the capital structure. At this point, stakeholders are much more likely to support leadership and the proposed actions to preserve and drive value.

Stage 2: Covenant Defaults/Forbearance

Here the level of business distress has grown to the point that debt covenants have been tripped and the company's secured lender is looking deeper under the hood. Perhaps the lender has gone as far as issuing a reservation of rights letter or forbearance agreement.

Typically, when EBITDA, cash flow, and fixed-charge covenants are tripped, the underlying causes are deeper than surface-level. The business is entering into crisis management territory, and leadership should begin to focus on preservation of cash and enterprise value.

Strategic options to restructure, sell, or exit some or all of the business should be considered. An honest assessment of both the management team and the reasons for the company's existence should be completed. Both viability planning and turnaround planning are needed to prove out near-term liquidity and longer-term enterprise value that support the capital needed to restructure.

Additional capital may be needed, but the company's lender or sponsor will need to be thoroughly convinced of the turnaround plan to undertake the additional risk and exposure.

Stage 3: Liquidity Crisis

This stage occurs when the daily focus is on funding payroll, getting a "stop-ship" vendor back in action, or skipping tax payments to preserve the cash for other uses. Cash management consumes several hours a day.

The secured lender is breathing down the CFO's neck with demands for enhanced reporting. It is also acting to mitigate its exposure. At the same time, the company's sponsor may be pushing for a strategy to get it out

Source: Thinkstock

Carl Sekely

Michael Walsh

of this mess, while leadership is less motivated since their piece of the pie is out of the money.

For the CFO, it's time to define an end game. Leadership must outline a strategy to exit or restructure, whether through an out-of-court reorganization, a quick sale process, or a formal bankruptcy.

Despite a common desire to keep the crisis "in house," any successful plan to preserve the business will require painstaking discussions with outside parties including trade partners, junior lenders, and shareholders.

Stages 4 and 5: Bankruptcy Through Cessation of Operations

The legal, financial, and operational challenges in a bankruptcy—or an assignment for the benefit of creditors, an Article 9 transaction, receivership, or out-of-court liquidation—are extensive. They require the retention of legal counsel, and in many cases a financial adviser, to properly execute the chosen strategy.

The company's secured lender, along with an unsecured creditors committee, will likely be deeply involved and have its own representation.

Equity holders tend to lose control once a business reaches Stages 4 and 5, and they are usually out of the money without an economic path to recovery. Additionally, most bankruptcies today lead to a quick sale rather than a reorganization with current equity, so an out-of-court process may need to be considered if the current sponsor prefers to stay in place on the back side. CFO

Carl Sekely is managing director and Michael Walsh a director of Conway Mackenzie, a global management consulting and financial advisory firm.

The Most Pressing Business Risk

It's business interruption, and it can cause enormous financial losses, says Allianz.

What business risk do executives and insurance industry experts worldwide fear most? For the seventh year in a row, it's business interruption (BI), according to the 2019 Allianz Risk Barometer for 2019.

Thirty-seven percent of respondents to a survey of 2,415 experts from 86 countries, including CEOs, risk managers, brokers, and insurance experts, chose BI as the top threat.

Said Chris Fischer Hirs, CEO of Allianz Global Corporate and Specialty (AGCS): "Disruptive risks can be physical, such as fire or storms, or virtual, such as an IT outage, which can occur through malicious and accidental means. They can stem from [a company's] own operations but also from [its] suppliers, customers, or IT service providers. The financial loss for companies following a standstill can be enormous."

Posing an increasing global BI threat, according to Volker Muench, a global practice leader at AGCS, are product recall and quality incidents.

"If one product at the beginning of the supply chain is not the correct one it can affect the whole process and the final product," he said.

Political risk and violence are also happening more often, said Muench. The indirect impact of such incidents can result in BI and loss of income either from production having to be halted or customers staying away from affected areas.

Rioting and protesting in France during November and December 2018 was costly. The French retail federation told Reuters that as of mid-January retailers had lost about €1bn ($1.1bn) since the protests began.

One overlooked BI exposure is when companies experience environmental issues. Expenses and supply chain disruption can quickly grow as a result of lengthy remediation, reconstruction, and delays during which firms may be unable to operate or provide products or services, Allianz said.

More and more, though, business interruptions are caused by cyber incidents. They rank as the top trigger of BI, followed by fire and natural catastrophes, the survey found.

"Cyber incidents leading to BI will become much more frequent in [the] future due to the massive reliance on technology and data for running businesses," says Georgi Pachov, a practice leader at AGCS.

The WannaCry and NotPetya malware attacks in 2017, for example, caused large losses for shipping, logistics, and manufacturing companies.

As far as emerging hazards, climate change and a shortage of skilled workers climbed the list of global risks in this year's Allianz survey. | **VINCENT RYAN**

Source: courtesy the authors, Thinkstock

THE ECONOMY

'The Federal Government Does Not Need Revenue'

The government can't go broke, says a leading proponent of Modern Monetary Theory, so stop worrying about the national debt. By David McCann

The world's leading economists regularly disagree with one another regarding important macroeconomic principles. A case in point is Modern Monetary Theory. The roots of MMT go back to at least 1905, when German economist Georg Friedrich Knapp published "The State Theory of Money." But its persona today is something like "new kid on the block that's shaking things up."

Some regard MMT proponents as a cult. At the very least, it can be said with confidence they represent a minority of economists.

Among that minority is Stephanie Kelton, an economics professor at Stony Brook University in New York. She recently emerged as something of a rock star, if such a thing exists in the world of economics. She's on TV all the time, and she has been an adviser to both Senate Democrats and the Bernie Sanders presidential campaign.

Kelton has good news for those who fear that the ever-swelling U.S. national debt is a road to fiscal Armageddon: the debt not only does no harm, it's actually a gargantuan economic stimulus.

The cornerstones of Modern Monetary Theory are that sovereign governments that are the sole supplier of national currency can issue as much currency as they want; have unlimited ability to fulfill promised future payments; and cannot go bankrupt.

As everyone knows, the U.S. government's promised future payments prominently include the big so-called "entitlements": Social Security, Medicare, and Medicaid.

In a public lecture, Kelton ran a short video containing clips of leading politicians—an equal number of Democrats and Republicans—insisting the pace of growth in the national debt is unsustainable.

But they're all wrong, she claimed. She showed a cartoon from 1937, decrying the national debt had reached $36 billion, followed by examples showing how that opinion never wavered over the decades as the debt grew and grew while America nonetheless prospered.

"Today the gross national debt is $21 trillion and continues to grow," she said. "The cartoonists, pundits, warnings, and hysteria are still with us. The sky is always falling. They're scaring us with stories about how it's unpatriotic, how it's burdening the next generation, how it's dooming us to a future of higher taxes, how it's a catastrophe for the nation."

Limitless Supply

Kelton said what she's trying to do is "get us to the point where we can open a nice bottle of wine, read the headline that the national debt is at an all-time high, and feel at peace with the world. Because there is no reason to panic."

People get confused, she said, when they try to compare a household budget with the government's deficit spending. "The government can no more run out of money than a carpenter can run out of inches or the scorekeeper at the Stony Brook football game can run out of points," Kelton said.

The federal deficit, she pointed out, represents the money the government spends into the economy that it doesn't tax back out. "But guess what?" she said. "The economy has a record as well. It's the surplus that was created as a result of the government's deficit spending." In fact, the bigger the federal deficit, the bigger the surplus for the economy.

Source: Getty Images

"The government can no more run out of money than a carpenter can run out of inches or the scorekeeper at the Stony Brook football game can run out of points."

—Stephanie Kelton, economics professor, Stony Brook University

She showed a screen with a recent *Wall Street Journal* headline—"Trillion-Dollar Deficits Could Be the New Normal"—where the word "deficits" faded out and was replaced with "surpluses."

"Don't you feel better now?" she asked the audience.

The national debt, according to Kelton, is nothing more than the aggregate value of all outstanding Treasury bonds. It's merely "a historical record of all the dollars that were spent into the economy and not taxed back that are held in the form of Treasuries."

The Role of Taxes

If the government can't run out of money, why does it need revenue?

"The federal government does not need revenue," Kelton tells *CFO*. "It literally holds the super-patent (if you will) on the U.S. dollar, as Alan Greenspan has explained many times. The government doesn't need our money. We need their money. Taxes do a lot of things, but providing the government with the money it needs in order to spend isn't one of them."

Money issued by the government is intrinsically worthless, she notes. So, why should anyone accept that money in exchange for real goods and services? Because people have to accumulate enough of it to pay taxes. So, currency is essentially a tax credit that functions to monetize the economy.

"If the government added money to the economy but never subtracted any, it would diminish the value of the currency," she says. "Inflation is the obvious result." And it's inflation, rather than a runaway national debt, that's the real bogeyman—"every central banker's public enemy number one," Kelton says.

There's an economic cycle: Congress authorizes a budget. The president signs it. Federal agencies are told how much money they have to spend, and they begin spending it. People receive income as a result of the government spending, on which they pay taxes, and which they can use to buy government bonds, thereby increasing the national debt.

Taxes have other functions too, she notes: to redistribute wealth, to influence some behaviors and disincentivize others. Also, taxes are important revenue for state and local governments, which are not currency issuers and can go broke.

If sovereign currency issuers can't go broke, why have so many European and South American governments teetered on the brink of insolvency in recent years?

Answer: A country "can always pay any obligation that comes due in its own currency. But it can get into trouble when it borrows in currencies it does not control. Argentina and Venezuela borrowed U.S. dollars, Italy borrowed euros, et cetera. It's the same reason Detroit and Puerto Rico are in trouble: they're currency users, not currency issuers," she says.

One thing a country should absolutely not do, according to Kelton, is try to aggressively pay down its debt. There have been seven times in U.S. history when the government ran surpluses and commenced paying down debt. Each time, the result was a severe recession or a depression.

Referring to the most recent occasion, when the government was running a surplus in the latter days of the Clinton administration and began to pay down debt, "look what happened to the private sector's financial position. It went deeply into the red."

Households in effect borrowed too much money on the back of the dot-com bubble and then the housing bubble. But that didn't and couldn't last: deficit spending isn't sustainable when households are doing it. But it's perfectly sustainable, for decades or centuries, when the federal government is.

Since the size of the nation's debt doesn't matter, what can we afford? When Bernie Sanders was trumpeting his aggressive economic agenda, his opponent in the 2020 primaries, Hillary Clinton, was calling it fantastical and out of reach, Kelton recalls.

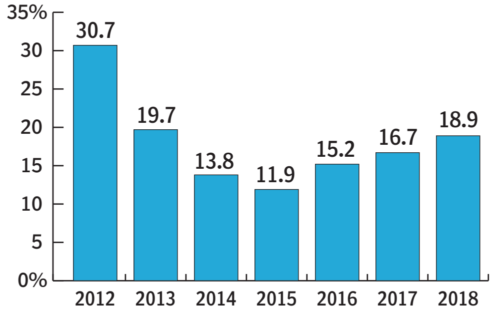
"In D.C., there is a great deal of pressure to pay for things," she says. "I wish we were having a very different kind of national debate. There's nothing to prevent the federal government from creating as much money as it wants and paying it to someone."

The "how to pay for it" question is a huge, destructive missed opportunity. "Because of that question, we never end up having the really important debates," Kelton concludes. CFO

Nothing To See Here?

Although the federal deficit is growing, there's no reason to sweat it, according to Modern Monetary Theory.

U.S. federal deficit as a percentage of federal spending, by fiscal year



Source: Office of Management and Budget, Bureau of Economic Analysis

Source: Courtesy of the author

Human Capital Reporting Standards Finally Arrive

Will the new ISO standard prompt companies to begin voluntarily reporting an assortment of human capital metrics? By David McCann

After a lengthy global effort to create standards for reporting human capital metrics, the International Organization for Standardization (ISO) issued its guidelines for human capital reporting in late December 2018. ¶ Depending on the extent to which companies voluntarily adopt the new standards, stakeholders would have a new category of data to assess organizational value and the prospects for financial and non-financial returns from investments in human capital.

But conversation around human capital reporting standards shifted somewhat over the past years. Rather than being seen as primarily a means to measure corporate value, such reporting is also considered a response to the public's increasing desire for corporations to act as good citizens.

"This is a watershed moment," says Jeff Higgins, a former CFO and the lead U.S. representative on the ISO task force that created the standard. "Some countries are going to adopt this as a regulation for public companies. In the United States, I've talked to more than a few companies that want to be in compliance ahead of others to demonstrate ethical and social credibility."

There's a fairly good case to be made that many companies will indeed pay attention to the ISO standard.

For one thing, the institutional investor community is a strong advocate for human capital reporting. The Human Capital Management Coalition — a group of 26 institutional investors with aggregate assets of more than $3 trillion, led by the UAW Retiree Medical Benefits Trust — last year petitioned the U.S. Securities and Exchange Commission to require public companies to disclose information about their human capital management.

The SEC officially accepted the petition and is reviewing the matter.

The coalition didn't specify particular required metrics. However, the new ISO standard provides the SEC with a good starting point, should it decide to move forward with human capital reporting regulations.

Other organizations behind the push include Principles for Responsible Investment, a United Nations-supported network of institutional investors with an aggregate $70 trillion in assets; and BlackRock, the world's single largest asset manager, with more than $6 trillion under management.

Attention to human capital is also part of frameworks issued by multiple global standards-setting organizations for reporting on environmental, social, and governance (ESG) activities. Such organizations include the Sustainability Accounting Standards Board and the Global Reporting Initiative. Over the past few years, most large U.S. companies have begun voluntarily issuing sustainability reports.

However, says Higgins, organizations like SASB call for far less human capital information than the ISO standard does. "If companies want to be fully compliant, they'll need to conform to the new ISO standard in one way or another," he suggests.

Of course, the more specific, detailed information companies are asked to provide, the more they might push back. It's one thing to issue a report that subjectively describes ESG activities. It's something quite different to publicly report on 23 specific metrics, as the ISO standard calls for.

Source: Thinkstock

The 23 metrics are divided into nine categories:

- Ethics
- Costs
- Workforce diversity
- Leadership
- Organizational safety, health, and well-being
- Productivity
- Recruitment, mobility, and turnover
- Skills and capabilities
- Workforce availability

The standard also says companies should make an additional 36 measurements but report them only internally.

Higgins says there was a wide range of sentiment on the task force, ranging from corporate members who wanted to report very few metrics, to policy hardliners who advocated for public disclosure of dozens more metrics.

"At times I had to be the voice of reason," he says. "I've worked with enough companies to tell [task force members] that if they wanted 60 metrics to be publicly disclosed, it would never happen. Industry would not support that. We needed a good starter set, and we'll work up from that over time."

Higgins opines that compiling the metrics for public disclosure should not be a major burden—for most companies, at least. He does note he met with an executive of a Fortune 500 company who said it would take two years to get into full compliance.

Does any of this mean anything to U.S. companies in the short term? Quite possibly so. Given the ardent involvement of so many institutional investors, Higgins suggests companies may soon begin receiving requests for human capital metrics.

"In the United States, I've talked to more than a few companies that want to be in compliance ahead of others in order to demonstrate ethical and social credibility."

—Jeff Higgins, a former CFO and lead U.S. representative on the ISO task force

"If the CEO or CFO doesn't have the numbers, they might have to dance," he says.

That poses a problem. Asked about his sense of the level of awareness about the new standard among even Fortune 1000 companies, let alone smaller public firms, Higgins says, "I think it's safe to say that 90% of them are not aware." CFO

Don't Worry About Absenteeism

"Presenteeism," or not being engaged on the job, is a far more costly problem for employers than absenteeism.

Forget sick days: Research shows "presenteeism"—showing up for work but not performing at full capacity due to sickness, lack of engagement, or distractions—costs business 10 times more than absenteeism.

While workers say they take an average of four sick days a year, they also confess to spending the equivalent of about 12 work weeks per year being idle or unmotivated on the job, according to a World Health Organization study.

Of course, that causes a financial drain for employers. "Presenteeism is a costly problem that touches every industry and every company," said Jack Skeen, a Fortune 500 leadership coach and leadership development expert.

Ironically, he says presenteeism could be decreased if employers stop focusing so much on absenteeism.

"The workplaces that make it the most difficult for workers to use vacation days or call in sick are the ones that are most likely to have poorly motivated staff," said Skeen, author of "The Circle Blueprint: Decoding the Conscious and Unconscious Factors that Determine Your Success" (Wiley, 2017).

"They come in resentful, overworked, and unmotivated, whereas offices that encourage a strong work/life balance have content and energetic workers," he adds.

A solution for decreasing presenteeism is a mindset foreign to some companies. "One of the best ways to keep workers on task is to make sure every employee feels they matter, not just as workers, but as humans," Skeen said.

He also notes unclear reward systems can be problematic. If workers don't think raises and promotions are given out fairly, they won't see purpose in giving 100%, according to Skeen.

He counsels leaders to change their point of view from "How can I get the most out of my employees?" to "How can I give the most to my employees?"

"People will feel seen, valued, and empowered, and they will be much more likely to be present and focused on the job," Skeen said. | D.M.

Sources: Courtesy the author, Thinkstock

TECHNOLOGY

A Practical View of Robotics and AI

Intelligent automation boosts both day-to-day functions and the quality of strategic insight. By Michael Burwell

Discussion around the impact of intelligent automation often centers on what it means for consumers or its implications for the workplace and the changing nature of jobs. But what does it mean in practice for finance professionals? ¶ As a CFO with more than three decades of finance and business experience, the aspect of robotics and artificial intelligence that most surprises me is the extent we have come to implement these technologies in corporate finance.

Digital transformation to this degree is something that has been talked about for years. Now, however, seeing the impact on the individual, day-to-day functions of my team makes the transformation much more real.

It is in everyday tasks that we can see how artificial intelligence impacts the average finance worker and finance role. And in examining that, we further can see how we will continue to adapt those roles for the future and create a new way of working.

During my career at PwC leading digital transformation, I saw a great deal of AI-driven initiatives, and over the course of my first year as CFO of Willis Towers Watson, I have been privileged to closely examine the practical implementation of AI and its impact on day-to-day operations.

For example, in the tax area of Willis Towers Watson, we use robotics to retrieve invoices in response to various queries by state and local tax authorities. Retrieval is an important step because both the number of reviews per day and the amount of data requested are growing exponentially.

My tax team can assign the robot a task and time to pull invoices in advance of a tax examination. A key advantage of using robots is their ability to work off-peak hours when staffers are at home. When staffers arrive in the morning, they have invoices and a status report to review.

We also are using AI programs as the first line of response for many financial inquiries that come to our department. Robots are able to deal with basic questions without the need for human intervention.

Those processes are ultimately quite ordinary and could be conducted by human employees almost as simply. However, in implementing the robotic processes and eliminating mundane tasks (as well as the risk of human error) we can improve the quality of work for our employees. Tax professionals don't get excited about pulling invoices to respond to audits; they want to serve as strategic consultants and advisers.

In fact, the greatest benefits of automated processes come from the finance function's ability to be proactive and creative in providing the company insights on, for example, macro trends driving business.

The heightened ability to use data to create better-informed narratives based on the fluctuation analysis provided by AI enabled us to reach a higher level of sophistication in our work.

Making It Happen

Like many companies, Willis Towers Watson is undergoing a digital transformation. A key part is driving the establishment of an automation hub within corporate finance as a foundation for further integration of AI-enabled decision-making across the company.

We're incorporating intelligence into all aspects of our effort to digi-

Source: Thinkstock

tize the finance function. That includes leveraging robotics across all key finance processes and incorporating voice recognition and natural language processing to help our people access information easier and faster.

But AI can benefit every individual and organization. The more data that's available, the more AI technologies, particularly machine learning, can provide value. The world is very dynamic, considering economics, geopolitics, and regulations, and it's extremely difficult to track and understand the implications of all of those dynamics. But by using AI to help assess the related risks, we can make better decisions for our organizations.

Leaders of digital transformation need to ask how they can continue to look at planning models for their business through a more proactive lens, with AI playing an important role, and use the resulting heightened data analysis to bring insights to corporate and business leaders.

In addition, there must be room for experimentation. As awareness grew of my company's automated finance processes, other leaders and departments started to explore and implement similar tools, driving AI adoption in the organization on a vertical basis.

All CFOs should remember AI is still just a tool to help make better and faster decisions. We can derive additional insight and use it to make routine tasks more efficient, but humans still make final decisions. Companies will continue to require the experience and expertise of their employees to drive businesses forward and strengthen their companies from within.

"Seeing the impact on the individual, day-to-day functions of my team makes transformation seem much more real."

—Michael Burwell, CFO, Willis Towers Watson

The stigma around AI and robotics is undeserved. AI in digital transformation is not about replacing employees with machines, it's about changing the way people work. By automating the granular tasks through AI and robotics, we create a more sophisticated workforce of finance professionals. CFO

Michael Burwell is the CFO of Willis Towers Watson.

Equifax Hack 'Entirely Preventable'

A congressional committee concludes cybersecurity complacency led to the large data breach.

The massive data breach at Equifax was due to a "culture of cybersecurity complacency" at the credit reporting bureau, a congressional report released in December concluded.

The House Committee on Oversight and Government Reform said the breach, which compromised the personal information of about 148 million consumers, was "entirely preventable," faulting Equifax for, among other things, failing to promptly patch a known security vulnerability in March 2017.

After exploiting the flaw in Apache Struts, a popular open source framework for creating Java apps, the hackers accessed more than 48 databases containing unencrypted consumer credit data. The attack lasted 76 days before Equifax employees discovered it in July 2017.

The breach was one of the largest in corporate history, with experts estimating total costs incurred by Equifax could be well over $600 million. It followed a period of rapid growth at the company under then-CEO Richard Smith, who boasted in a August 2017 speech that Equifax managed "almost 1,200 times" as much data as the Library of Congress.

"Having so much personal information in one place made Equifax a prime target for hackers.... Equifax was unprepared for these risks," the House committee said.

Security experts previously concluded hackers exploited the Apache Struts flaw but the House report also described flaws in Equifax's automated consumer interview systems (ACIS), a portal built in the 1970s for people to check their credit rating from the company's website.

A patch for the Apache vulnerability, which was available on the same day the flaw was publicly disclosed, should have been applied within 48 hours. Equifax's ACIS was not patched until the hack was discovered.

In the meantime, hackers were able to bypass the system's firewalls, upload malicious script to enable remote control of servers, and then download data on 265 separate occasions.

There was a "pronounced" disconnect between Equifax's patch management policy and its execution, the committee said. | MATTHEW HELLER

Sources: Courtesy the author, Thinkstock

Tension between superpowers. Tariffs. Rising interest rates. Volatile markets. Stagnant wages. Brexit. A flattening yield curve. Most of all, a 10-year run of relatively stable economic growth that is long overdue for a correction.

"There will be a recession because there has to be," says Robert Alessandrini, finance chief at IT staffing and consulting firm The Judge Group.

His peers agree. (See "CFOs Discern a Downturn, page 44.)

However, few expect the downturn, likely beginning this year or next, to resemble the Great Recession of 2008-2009. Then again, before that deep trough hit, few foresaw the degree of financial devastation it would ultimately wreak.

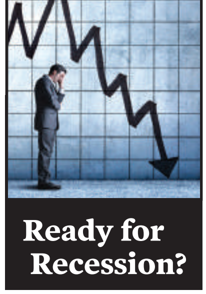
Whatever the depth and duration of the presumed economic slump, CFOs—especially in such vulnerable industries as manufacturing, retail, construction, technology, and travel/hospitality—have decisions to make in advance. What should they do to get ready?

READY FOR A RECESSION?

What finance chiefs are and should be doing to brace their organizations for the likely economic downturn.

BY DAVID McCANN

Source: Getty Images



No single strategy stands out. CFOs are mostly blocking and tackling—shoring up balance sheets, locking in credit lines, and shaving costs, while determinedly maintaining investment in key growth initiatives.

But how they choose to execute such strategies, which additional ones they employ, how agile they are in doing so, and the psychology of their response to stressful times will determine how well (or whether) their companies survive the coming storm.

NIP AND TUCK

Like many mature companies, toolmaker Stanley Black & Decker strives to keep a low debt-to-EBITDA ratio. The ratio is currently at two, the target number. Historically, in order to finance one of the many acquisitions that have fueled the company's growth, the company has allowed the ratio to flex up to three, CFO Donald Allan says.

"We wouldn't want to do that now," says Allan, noting that the executive team started discussing recession preparations late last summer. By borrowing to finance an acquisition as small as $1 billion, "we'd risk getting into an awkward situation where leverage was too high and liquidity was too low."

"We don't tend to do significant cost-reduction programs when the economy is relatively stable and growing at a healthy rate."

—**Donald Allan,** CFO, Stanley Black & Decker

Stanley Black & Decker has already suffered ill effects from the Trump administration's high tariffs on imports from China. The company sources "a fair amount" of finished product, components, and raw material from Asia's largest economy.

That Stanley Black & Decker is taking the prospect of a recession seriously is evident from its October announcement of $250 million in cost cuts. About 70% of that amount will be achieved through paring head count by 5%. "We don't tend to do significant cost-reduction programs when the economy is relatively stable and growing at a healthy rate," Allan says.

At The Judge Group, a $500 million privately held company, CFO Alessandrini is scrutinizing client relationships. If customers' orders for IT staff start to fall, presaging an economic downturn, "we will stop doing business with clients that can't pay us on time, clients in industries with poor cash flow or weakening fundamentals, and clients with sinking credit ratings," the CFOs says. "And any client we [continue to] do business with, we'll get more margin out of it" through pricing adjustments.

Alessandrini is also prepared to trim Judge Group's sales costs. "When times are good, there's a level of tolerance for poor performers. When times are tough, the bottom 10% to 15% have to go," Alessandrini says. But there's something of an art to the winnowing process, he adds. For example, a bottom-15% performer who has been with the company for only six months and whose activity logs show he or she is "putting in the effort" might be spared the ax.

A recent change to Judge's compensation structure for salespeople, making commissions a greater proportion of their pay, could provide another recession buffer. "In good times they'll make good money, and when things start to go south they won't cost us as much," says Alessandrini.

Alessandrini also has a game plan for one of The Judge Group's other primary costs: real estate. Because waning market demand pushes rents downward, he may seek to extend lease terms in exchange for getting lower rates over a contract period that may outlast the downturn.

SLOWING IT DOWN

Caution is also the watchword for early 2019 at FLIR Systems, a $2 billion manufacturer and distributor of thermal imaging cameras and sensors.

"We're making sure to start off the year slowly with re-

Awake at Night?

Source: Deloitte CFO Signals Survey of 147 North America finance chiefs, Q4 2018

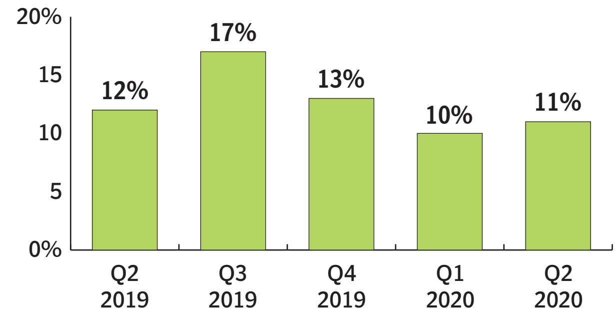
Source: Courtesy of Stanley Black & Decker

"We will stop doing business with clients that can't pay us on time, clients in industries with poor cash flow or weakening fundamentals, and clients with sinking credit ratings."

—**Robert Alessandrini,** CFO, The Judge Group

Watching and Waiting

When do CFOs expect a recession to hit the United States? (Most popular choices)



Source: Duke University/CFO Global Business Outlook Survey of 210 U.S. CFOs, fourth quarter 2018

spect to new types of investments, and challenging ourselves on new hires—do we really need them?" says Carol Lowe, FLIR's finance chief. "We'll let the quarter materialize and see how growth goes, and then maybe we can loosen the purse strings a bit. If you start out the year spending at higher levels, it's harder to rein it in later."

Where FLIR has the flexibility to do so, it is also working with suppliers to move some of their production out of China to avoid steep tariffs. Lowe also recently instituted more discipline in the process of reviewing internal requests for capital.

Recession Lesson: Tighten Up Working Capital

The Great Recession provided some harsh lessons about working capital management and supply chain performance. What do they tell us about the likely impact of the next recession on those areas?

An analysis of the auto industry's response to the previous crisis offers some pointers about how companies can respond. In a downturn, carmakers (original equipment manufacturers, in industry parlance) will likely intensify their efforts to enhance working capital performance by shortening inventory conversion periods (the time required to obtain materials all the way until the sale of the finished product) and lengthen supplier payment terms.

In response, other links in the supply chain—raw material suppliers, material specialists, component standardizers, system integrators, and car dealers—may also extend supplier payments and try to accelerate payments from their customers.

Changes like those could reshape auto manufacturing supply chains and ripple through to other industries.

To provide insights into how the auto industry changed after the financial crisis, we compared cash conversion cycles (CCCs) during the periods 2006-2008 and 2012-2014. (The CCC is how fast a company converts cash on hand into inventory and accounts payable, then gets cash back through sales and accounts receivable.)

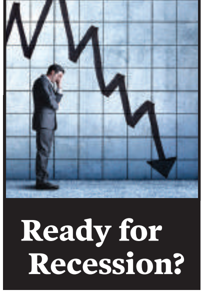
The average CCC for auto manufacturers before the Great Recession was 106 days, but by 2012-2014 it had shrunk to 35 days. The automotive companies did this through a combination of shortening their inventory conversion period by 21%, accelerating payments from car dealers by 39%, and lengthening payment terms with suppliers by 55%.

As a result, the upstream players, from raw material suppliers to system integrators, all extended payment to their suppliers by as much as 30%, while car dealers speeded up payment from end customers by 33%.

Those results reflected the strategy statements published in OEMs' annual reports at the time. For example, in BMW's 2014 annual report it stated that "based on experience gained during the financial crisis, a minimum liquidity concept has been developed and is rigorously adhered to. Solvency is assured at all times by maintaining a liquidity reserve and by a broad diversification of refinancing resources."

| ***Lima Zhao*** *is associate professor of supply chain management at the Ningbo Supply Chain Innovation Institute China.* ***Arnd Huchzermeier*** *is chaired professor of production management at WHU-Otto Beisheim School of Management in Germany.*

Sources: Top, courtesy The Judge Group. Bottom, Getty Images



Some businesses may have very few levers to pull to improve their situation entering a recession. Alliance Lumber, a $260 million distributor of lumber products in Glendale, Arizona, saw revenue decimated by 90% during the Great Recession. The company laid off all of its hourly employees (the bulk of its workforce), and management took pay cuts.

This time Alliance is expecting only an 8% to 10% revenue pullback, based on leading indicators like a recent dip in new home construction and a gathering trend toward smaller homes being built. But "if there is another recession like 2008, all bets are off," says CFO David Rau.

"We have to remind ourselves that this market softness may be new for a lot of people in key decision-making roles."

—**Carol Lowe,** CFO, FLIR Systems

The company's problem is that it's a commodity-type business. The price of lumber is what the mills charge. Alliance can try to tick pricing upward for its homebuilder customers, but "if we get too out of step with the market we could lose a lot of market share," Rau notes.

STAYING LIMBER

The timing of a recession's onset, as well as its length and depth, has always been difficult to predict, but perhaps more so today. Data that have historically been leading indicators, such as employment rate, inflation, interest rates, and international trade volume, are generally proving less effective at signaling economic slumps than they have been in the past, says Steven Strammello, managing partner of Crowe Risk Consulting. The distortion may be due partly to today's geopolitical disruptions and unorthodox public policies, he suggests.

Predicting a recession's timing may not be all that important, however. "I am finding senior business leaders worried about when the recession will hit, and how long and deep it will be," Strammello says. "But from a risk management perspective, they should be thinking about their ability to adapt quickly as circumstances change."

In other words, this downturn will put a premium on agility. CFOs have to be prepared to scale up or dial back the size of businesses based on markets and the economy, he advises. Agile companies will be much better equipped to weather a recession and to come out of it strongly.

Most leaders were not ready for the Great Recession, according to Russell Raath, president of Kotter, a change- management firm. "It takes a bold leader who, after spending decades getting ready to lead and leading, can adapt quickly to the need for a completely new operating model," he says.

Antidotes to recession are easier to find where an adaptable culture exists. For example, some consumer products companies have discovered important products and even whole new product categories during times of market depression, notes Raath.

During the last recession Procter & Gamble came up with the idea to create scented beads that consumers could toss into washing machines to make clothes smell good for an extended time. After the product was launched in 2011, scent-booster beads became an exploding product category.

"When you realize that the next three quarters are going to be down, it pushes pressure throughout the organization," Raath says. "You have to create the space for creativity to happen."

For companies with a call center, one of the best things a leader can do in lean times is visit it, Raath suggests. Talking to the staff about what they're hearing from customers might just lead to a product opportunity.

At any time, but especially during a recession, a company that aspires to be agile should avoid at all costs the "HIPPO" syndrome, where everybody looks to the "highest-paid person's opinion." So says Lars Sudmann, who was appointed CFO of Procter & Gamble Belgium in September 2008, just as the big recession slammed into the world economy.

"Does that one person have all of the right views?" Sudmann, now a university lecturer and an adviser to boards and management teams, asks rhetorically.

It's why he advocates the use of "brainwriting," a structured form of brainstorming designed to stimulate creativity and innovation. If a moderator requires, say, six participants to write down three ideas within five minutes, and the exercise is repeated five times, 108 ideas are generated in a half-hour. "It's very fast, very agile, and can have many, very different results," Sudmann says.

Other simple but effective tools that he recommends for promoting agility include decision trees and checklists.

"When a crisis hits, the 'headless chicken' syndrome kicks in," Sudmann says. "People run around trying to figure out what to do, and nobody has a plan." A decision tree maps out in advance what should be done, for example, when sales drop by 5%, or 10% of customers pay 30 days late, or a major competitor slashes its prices.

"Then when that thing happens, you can take out this piece of paper and say 'Look, we already talked this through.' It can change the dynamic of a board meeting and was an enormous help to me," says Sudmann.

Pilots use checklists when a crisis kicks in. Similarly, a recession checklist, prepared during stable economic times, can be helpful to business operations teams, according to Sudmann. It should consist of a manageable number of

Source: Courtesy of FLIR

Souring Sentiment

Finance chiefs have adjusted their outlook on risk-taking, financing, and global conditions.

40% of CFOs...
Say now is a good time to take on greater risk—the lowest level in two years

62%
Currently regard debt financing as attractive—the lowest level in four years

35%
Currently regard equity financing as attractive—the lowest level in three years

28%
Expect economic conditions in North America to improve in 2019, down from 59% in Q1 2018

7%
Believe the economy in Europe will improve in 2019

12%
Believe the economy in Asia will improve in 2019

Source: Deloitte CFO Signals Survey of 147 North American finance chiefs, Q4 2018

high-priority items, maybe about 10, to look at in the event of a sudden downturn. Examples might include a new level of reporting on top of standard reporting and the company's cash position for the last 50 days.

"When you realize that the next three quarters are going to be down, it pushes pressure throughout the organization. You have to create the space for creativity to happen."

—Russell Raath, president of Kotter

A NEW EXPERIENCE

When the previous U.S. recession began more than a decade ago, many of today's middle managers were in less-responsible positions, or in some cases, not even in the workforce. Many workers also either retired or got new jobs. At some companies the volume of layoffs was so great that some quality talent was let go.

"It would be easy for any management team to sit back and say they know how to handle this," says FLIR's Lowe. However, "we have to remind ourselves that this market softness may be new for a lot of people in key decision-making roles." As a result, FLIR is taking the time with inexperienced managers to look at scenario planning, different risk analyses, and, since it's a global company, the potential impact on currency.

It's not only internal managers who need to be educated about economic downturns, adds Stanley, Black & Decker's Allan, noting his frequent interactions with buy-side and sell-side professionals. "Some of those folks are in their 30s or even their 20s," he says. "Their only experience with recession is what they saw their parents go through or what they've read."

Even executives who wear the battle scars of past recessions, and their companies, can fall into some very common psychological traps in stressful economic times.

For instance, the inexperienced as well as the experienced need to avoid a false sense of confidence. While certain businesses that provide essential products and services are less exposed to economic cycles, few businesses are truly recession-proof, notes Matt Hare, a partner at investment firm Huron Capital.

In the warm climate of the Southwest, for example, "a company that installs and repairs heating and cooling systems provides an essential service," he says. "But those same businesses must prepare for a slowdown in the construction of new buildings."

Also, Hare urges, finance executives need to be careful not to deceive themselves into believing a recession hasn't arrived yet because there haven't been two consecutive quarterly declines in real GDP. Smart companies, he notes, carefully monitor their performance metrics and are prepared to respond in real time to red flags.

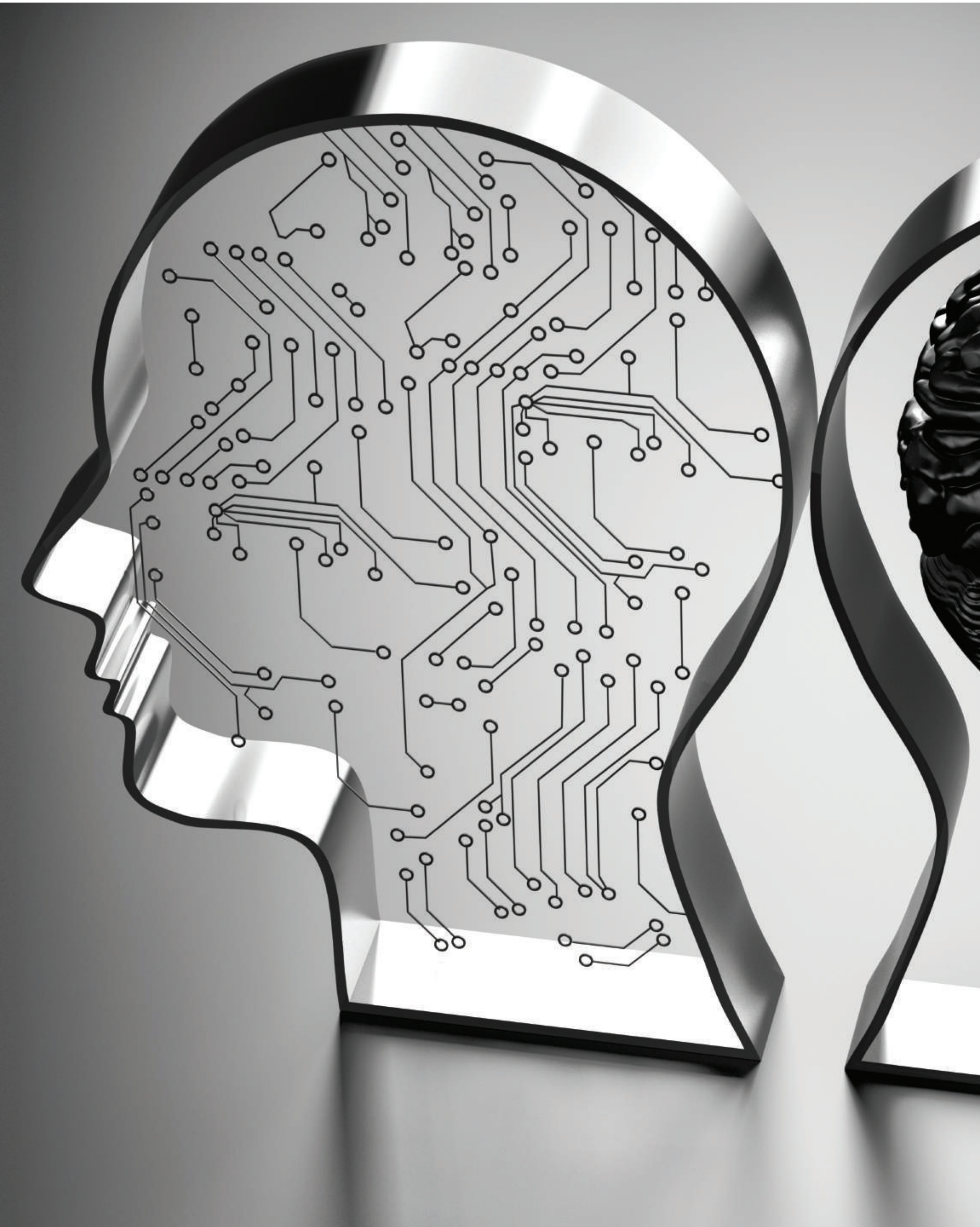
Indeed, convincing a management team that immediate changes are needed before a full-blown recession hits may be what keeps CFOs awake at night in the next few months. There are always holdouts in the ranks, says Tim Raiswell, finance research leader at Gartner, sketching out a scenario. "They say, 'this isn't the way value is created' and 'cost reductions will only hurt the customer experience.'"

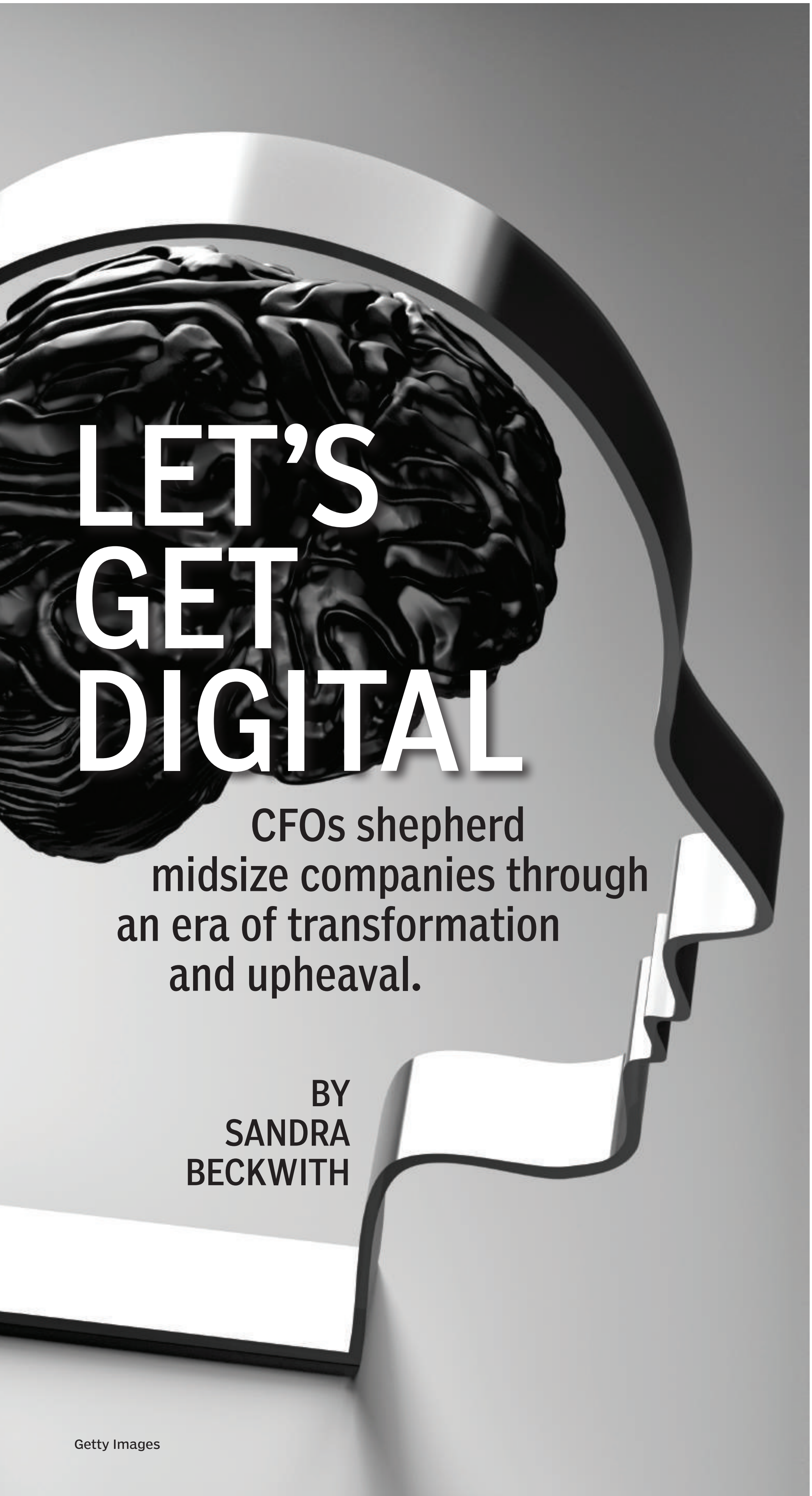
CFOs can significantly boost their company's chances of success, Raiswell stresses, if they can counter this "mental momentum" problem—the internal resistance to change that prevents companies from responding to new market economics.

The need to perform a feat as daunting as reversing mental momentum underscores the likelihood that for many finance chiefs, the next two years may serve up some of the headiest professional challenges they have ever faced. How they respond could do more than influence business results—it could define their careers. CFO

David McCann is a deputy editor at CFO.

Source: Courtesy of Kotter





LET'S GET DIGITAL

CFOs shepherd midsize companies through an era of transformation and upheaval.

BY SANDRA BECKWITH

Getty Images

Digital transformation has no definitive playbook.

Indeed, it's hard to even pin down a definition of the term. Going digital is a lot more than just taking advantage of information technology; it represents a change in activities, processes, competencies, and models, according to i-SCOOP. Those changes are designed to leverage the opportunities offered by a mix of evolving technologies and their accelerating impact across society.

For many organizations, getting digital is about using technology to boost employee productivity. For others, it involves improving the customer experience, developing new digital revenue streams, or leveraging data to better manage business performance, according to 2018 research by IDG Communications. And there are plenty of other aims based on functional roles. While marketing talks about "retargeting" with ads that follow shoppers from site to site online, product management uses data analytics to guide

future development. A supply chain manager, on the other hand, uses newly available data and tools to perform scenario planning or to stress-test inventory levels.

Those examples fall short of conveying the depth at which digital strategies are changing businesses, however. To do that, we looked at four midsize companies in four distinct industries: manufacturing, health care, financial services, and retail.

MANUFACTURING

Pressed Into Change

When veteran operations executive Renaud Megard acquired 40-year-old NFI in 2015 and expanded its product line and manufacturing capacity with two more acquisitions, he and his management team knew that modernization was in order.

NFI uses digital, screen, and flexographic printing to produce custom, long-lasting barcode, serial number, and tamper-proof labels; asset tags; metal nameplates; and electrical membrane switches. Underlying the company's digital strategy is the realization that in other markets, "companies that missed the turn from analog to digital didn't survive," says Alan Rose, NFI's CFO.

At NFI, that pivot is the difference between using an analog press and one that's digital—screen versus digital printing. The company recently bought its second nearly $1 million HP Indigo digital press that can print in one week what it takes an analog press one month to produce. Rose provided risk analysis on the investment and arranged financing.

"We also [now] have the ability to connect our presses with others around the world" and move work between the company's two plants in Massachusetts, he says.

A major trigger for the manufacturing modernization was the recognition that a portion of NFI's core legacy business was slowly eroding as products it produced labels for

"The customer portal will relieve the sales staff of this workload in a way that we know will impact revenue."

—Alan Rose, CFO, NFI

aged out. Rather than pursue more of that lower-margin work, the firm decided to target higher-margin opportunities leveraging its digital presses.

The analog-to-digital move impacts the company's marketing and sales, as well. Integrated digital marketing—email, social media, an updated website, and online advertising—helps attract and convert prospects. Employing more digital tools and tactics also saves money. The $200,000 NFI once spent on direct mail—a tactic that it used to mail product samples to prospects—has been cut by 90%.

Old-school, person-to-person contact is still in the mix. The in-house sales team uses a customer relationship management tool to help convert leads to customers. The sales force is also about to get a boost allowing it to spend more time selling and less time taking orders. In the first quarter, NFI will introduce a web-based portal that lets customers reorder quickly, without talking to anyone.

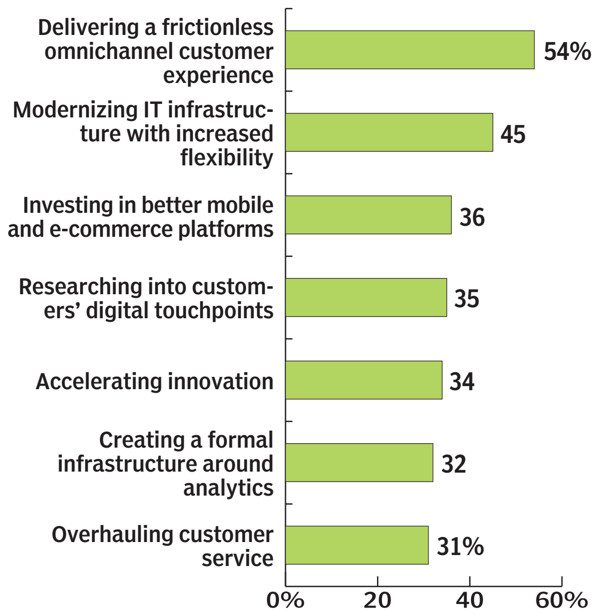
"About 75% of our products are re-orders," says Rose. "We want our sales representatives to be more than order-takers. The customer portal will relieve the sales staff of this workload in a way that we know will impact revenue."

The entire organization is also expected to benefit from an enhanced enterprise resource planning (ERP) system this year. Upgrading NFI's lead ERP, Infor LX, to the current version means moving it to the cloud. That will give staff access to data anywhere, on any device. A second ERP used by one of the acquired companies will eventually be phased out.

Digital Priorities

The customer figures prominently in firms' short-term digital strategy goals.

Which initiatives are most important to your short-term (within three years) digital transformation efforts?



Source: Altimeter's "The State of Digital Transformation 2018-2019." Survey of 554 digital strategists and C-suite executives in North America, Europe, and China.

Courtesy of NFI

Each piece of the digital strategy has different key performance indicators managed by individual departments, Rose says. Marketing, for example, monitors how much it spends, the number of leads generated, and the close rate.

Rose participates in guiding digital strategy at weekly team meetings and provides financial risk analysis and other support. For example, when the CEO discussed adding robotics to production, Rose's analysis revealed that the company didn't yet have the necessary processes in place for it to be cost effective.

HEALTH CARE

Listening to Patients

When a family couldn't get to its pediatrician's office for a sick visit recently, Allied Physicians Group's digital strategy came to the rescue.

With her husband at work and unable to help, a pregnant mother on bed rest with an IV in her arm couldn't leave home when her two young children were sick.

After scheduling a telemedicine appointment, the mother and pediatrician collaborated on a diagnostic process during a video appointment. Using a smartphone app and its companion in-home diagnostic medical device purchased from the practice, the mother checked the children's temperatures and let the doctor see into their ears remotely. The provider's app received and displayed the diagnostic device's output, so the pediatrician could assess the situation with significantly more accuracy than simply observing the patient from afar. Together, doctor and parent discovered that one of the children had a severe ear infection.

"It's all about improving continuity and quality of care, the patient experience, and patient engagement."

—Valerie Mayer,
CFO, Allied Physicians Group

After receiving the pediatrician's prescription for an antibiotic, the family's pharmacy delivered the medicine to their doorstep quickly and efficiently. It all took less than an hour—and the family never changed out of their pajamas.

"It's all about improving continuity and quality of care, the patient experience, and patient engagement," says Allied CFO Valerie Mayer.

With more than 150 physicians in 32 practices in the New York metropolitan area, Allied Physicians Group's digital strategy is built around a need to provide exceptional care while maintaining pace with how its target audience—parents of young children—like to communicate.

That means embracing technology, transparency, and data. "Health care is data," says Mayer, who continually monitors digital initiatives to make sure expenses are controlled and that financial resources are invested in ways that help meet the group's goals.

While the organization started digitizing patient records more than a decade ago, it began centralizing the data in the cloud only four years ago. This approach improves decision-making and quality of care, which in turn boosts patient satisfaction. Hosting patient information online also makes it possible for the group to offer the after-hours telemedicine service, since practitioners have access to all patient records no matter where they are. Allied Physician is currently working on expanding and enhancing its online patient experience with appointment scheduling and text messaging for appointment confirmations.

Provider-run committees make the organization's management decisions with support from administrative leaders. The technology committee is typically responsible for digital strategy, working closely with IT and finance leaders to make sure new initiatives can be implemented cost-effectively. The committee researches the proposed project before preparing a brief that takes into account goals, stakeholder needs, and costs. Once approved and

Pushed to Adapt

Outside forces are high on the list of drivers of digital strategy adoption.

What are the key drivers of digital transformation within your organization?

Source: Altimeter's "The State of Digital Transformation 2018-2019." Survey of 554 digital strategists and C-suite executives in North America, Europe, and China.

Courtesy of Allied Physicians Group

implemented, initiatives are monitored according to various key performance indicators (KPIs).

Technology initiatives, piloted within controlled environments, are benchmarked against organization-wide KPIs. Depending on the project, metrics can include visit and newborn counts, denials, cancellation rates, brand awareness, continuity and quality of care, revenue, and profit.

For example, the new virtual patient portal will be evaluated according to adoption, use, and parent feedback provided in focus groups managed by the patient engagement committee. Funding for initiatives typically comes from physician partners, since Allied is owned and operated by them.

"The ultimate metric is whether it improves our quality of care. That's always our goal," Mayer says.

FINANCIAL SERVICES

Quick Benefits

When startup Spinnaker Insurance formed in 2015 with just a few people, it was clear that job descriptions couldn't be narrow. Jesse Willmott, CFO, expanded his role to include information technology, since one of his top priorities was getting fundamental accounting systems, processes, and procedures in place and running efficiently.

Spinnaker, a national property and casualty insurer rated A- by A.M. Best with $63 million in assets, uses insurance program administrators and managing general agents to access niche markets. It focuses on homeowners, renters, and small commercial policyholders.

> **"While [NetSuite] offered what we needed, there didn't seem to be an insurance company that had implemented it that I could talk to, which made me hesitate."**
>
> **—Jesse Willmott,** CFO, Spinnaker Insurance

Because Spinnaker has limited staff resources, one of the firm's digital strategies from the beginning has been investing in systems it can implement quickly and benefit from immediately. "We can't stand something up and test it for a few months, then roll it out in phases," says Willmott, who came to Spinnaker from PricewaterhouseCoopers.

For the financial backbone, the company's ERP system, Willmott explored options commonly used in the insurance industry. Willmott's get-it-up-and-running-quickly digital strategy required an affordable, cloud-based system that was flexible enough to allow for adjustments as the company grew. He wanted to be hands on with it so he wouldn't need to file a vendor job ticket every time he needed to make a change or generate a new kind of report.

When he realized that the systems other insurance companies were using didn't meet Spinnaker's needs, Willmott tapped his network outside the industry for advice. A former colleague with IT experience suggested taking a look at NetSuite. Willmott liked what he saw, but there was a hitch.

"While it offered what we needed, there didn't seem to be an insurance company that had implemented it that I could talk to, which made me hesitate," Willmott says. Still, since his company's model was different enough from others in the industry, Spinnaker decided to take a chance on it.

"It ended up being a good decision. We have tremendous flexibility," he says.

A second IT challenge, accessing and incorporating policy administration data from the company's insurance program partners to help streamline operations and processes, was far less easy to execute. There wasn't an off-the-shelf software product that could import and process data in different formats from multiple sources.

"We had to build something internally that could handle the data feeds and reporting we needed," Willmott says, adding that the custom system continues to evolve.

Partnering with insurance industry innovators that are using technology to disrupt long-standing practices is also central to Spinnaker's evolution. For example, one of Spinnaker's partners provides internet of things devices to policyholders to help with early detection of water leaks in their homes.

Going forward, Spinnaker expects its digital strategy to support plans to scale the business through growth in partners, products, and people. Since adding even a few people would amount to a significant staff expansion, making sure the company is using all of the power in its systems is essential.

"When we're leveraging our digital systems effectively, I'm better able to work on key operating decisions and business development so we continue to grow and succeed," Willmott says.

RETAIL

Selling Stories

At online luxury home decor retailer Maison Numen, digital strategy is all about storytelling and community. The Florida-based e-commerce business with warehouses in Miami and Caracas carries exclusive home décor pieces sourced from 90 highly skilled artisans in Africa, Asia, the Americas, and Europe.

"Because these craftsmen create with techniques that are part of their cultures, they all have a story to tell," says Daniela D'Ascenzo, CFO of the young company. "We share those stories on our website and through social media."

Each piece featured on MaisonNumen.com, whether it's a decorative spiral glass bowl made in Tuscany or an em-

Courtesy of Spinnaker Insurance

broidered white sheep wool pillowcase from Turkey, includes the maker's story in the product description. Shoppers discover, for example, that the pillowcases are created by a husband and wife team from diverse backgrounds who met in Barcelona and now create and live in Istanbul.

To build a sense of community linked to the unique merchandise, the site showcases videos from buying trips around the globe. Users experience the sights and sounds of a Moroccan market or watch Venezuelan ceramist Cecilia Guevara create avocado-shaped pots with her hands.

"Because one of our main goals is to offer objects with meaning, we want our customers to experience as much of the story behind the products as possible," D'Ascenzo says.

To make sure that the site, its goods, and the artisan stories do well on search engine results, the company's digital strategy includes investing personnel time in search engine optimization. Using content to attract upscale shoppers to the carefully curated collection of merchandise extends beyond the site to social media, as well. Sharing lifestyle and craftsmen imagery on Pinterest, Instagram, and Facebook is a key part of the company's marketing outreach.

Facebook helps build a sense of community and drive traffic to the site through ads plus links and images on the company's page. But the social media team is putting much of its effort into visual networks Pinterest and Instagram.

On Pinterest, a platform that attracts people interested in lifestyle topics that include home decorating, Maison Numen has 159,500 monthly viewers. The brand's "boards" built around themes ranging from "European breeze" to "wood obsession" feature images that resemble magazine decorating layouts.

While the company has started experimenting with Pinterest's "Shop the Look" option that lets users find and buy items shown in home décor pins, Maison Numen has found that the new tool still needs refinement.

Instagram is a visual showplace not only for the brand's merchandise, but for its storytelling and product sales, as well. The company's ads on the third most popular social network in the world generate purchases while its videos use travel footage to bring a human element to the merchandise.

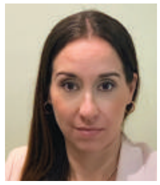
"We've been experimenting with video more there, mixing our travel experiences with product," D'Ascenzo says.

Key performance indicators for the retailer's digital strategy include website traffic and conversions as well as likes, shares, views, referrals, and consumer engagement with site content and social network imagery.

D'Ascenzo meets regularly with the marketing and e-commerce teams to monitor expenditures and results. "We have a guide we use for each platform that helps us make decisions that include whether we should invest more or less in each network," she says. Decisions are based on metrics that include engagement such as likes and shares, traffic to the website, and the percentage of site visitors from each platform that become customers.

What the management team knows for sure, she says, is that telling the stories of the artisans is a digital strategy that works. CFO

Sandra Beckwith writes about business, publishing, supply chains, and logistics.



"Because one of our main goals is to offer objects with meaning, we want our customers to experience as much of the story behind the products as possible."

—Daniela D'Ascenzo, CFO, Maison Numen

The Six Stages of Digital Transformation

How businesses normally progress through the adoption and execution of digital strategies.

Business As Usual	Organizations operate with a familiar legacy perspective of customers, processes, metrics, business models, and technologies.
Present and Active	Pockets of experimentation drive digital literacy and creativity.
Formalized	Initiatives become bolder and, as a result, change agents seek executive support for new resources and technology
Strategic	Individual groups recognize the strength in collaboration as their research, work, and shared insights contribute to new strategic roadmaps.
Converged	A dedicated digital transformation team forms to guide strategy and operations based on business and customercentric goals.
Innovative and Adaptive	Digital transformation becomes a way of business as executives and strategists recognize that change is constant.

Source: Altimeter's "The State of Digital Transformation 2018-2019"

Courtesy of Maison Numen

The Other Side of the Network

Cybersecurity is starting to venture outside the firewall to focus on users and their devices. By David M. Katz

"It sounds sort of scary," says Sam Srinivas, referring to the new approach to cyber risk management he's helped develop at Google. "But it's even more secure."

Hit by a wave of phishing attacks around 2009, the internet giant decided that, rather than merely bolster its firewalls and construct new virtual private networks (VPNs), it would hatch a new way of protecting its employees, clients, and assets. The idea was radical: eliminate the long-held belief that the essence of cybersecurity is to protect the "perimeter" of the company—the border around its actual physical location and intranets.

Instead, the company set out to develop BeyondCorp, a cloud-based cyber solution that authenticates every user and device and every computer and mobile caller attempting to gain access to the Google network, no matter where the user is. The scary part for some observers is the approach involves placing sign-in access to a company's networks out on the internet, rather than keeping its data within the confines of its perimeter, acknowledges Srinivas, a Google product management director.

Yet the concept known as "zero trust"—a term said to be coined by Forrester Research—involves a more precise and extensive form of cybersecurity than reliance on firewalls and VPNs has provided. Essentially, the approach assesses each risk that emerges when a user attempts to tap into a company's network. In a sense, the system builds its own security "perimeter" in response to each log-in.

Google and other advocates of zero-trust cybersecurity claim it's virtually airtight against phishing attacks and other forms of unauthorized access, and it provides much more flexibility around who may be permitted access to specific data assets. But the cost and work involved in making the transition from conventional risk assessment to the new framework can be prohibitive.

Nevertheless, the realization that cybersecurity needs to change to a more agile model is taking hold at organizations both large and small. Most significantly, it's part of a shift in the paradigm of how companies assess the risk of data breaches.

Trust No One

Instead of looking at their exposures as a monolith demanding a uniform, fortress-like defense, corporate risk managers and information technology officers are breaking down their risks into segments. The segments are based on the kinds of data their companies retain or the kinds of people they employ. Ultimately, they hope to develop cyber defenses that, like BeyondCorp, can assess the risk represented at the point of every single sign-in to their networks.

While Google and other companies still use firewalls as a basic form of defense against botnets and other automated attacks, the BeyondCorp strategy focuses on blocking individualized attacks, especially phishing assaults, wherever they occur. Like the guiding principle of agents Scully and Mulder on "The X-Files," that of the developers can be summed up by the phrase "trust no one." Rather than allowing access to a company's private network through a limited number of "gates," as firewalls do, zero-trust systems assume anyone might be a hacker.

Kees Leune, the chief information security officer and a computer science professor at Adelphi University, explains the new framework well. Google and other companies pursuing the strategy "acknowledge the fact that in the modern organization, most employees are mobile, and they're not necessarily at headquarters in that cubicle behind the firewall. They are with their laptop, on the move, at an airport, hotel, local coffee shop, or working from home as telecommuters."

In such situations, firewalls, which only protect data in a defined geographic location separate from the "big, bad internet," are essentially useless, Leune says. With zero trust, regardless of

"Larger companies with lots of legacy systems need more thought and planning for BeyondCorp."

—Sam Srinivas, product management director, Google whether the user is trying to sign into the system from a corporate branch office or from Starbucks, "you're still going to be treated as untrustworthy, until you have proven to the system each and every time that you are trustworthy," the Adelphi CISO adds. The system's assessment is triggered when users enter their names and the unique lines of code sent to them by the company.

Baked-in Assessments

Educational Testing Service (ETS), a large, 70-year-old non-profit organization, administers the Graduate Records Exam, scores the SAT, and develops other well-known academic tests. Its risk assessment planning has taken a new turn to match the accelerating pace of change in how business is done. "It no longer makes sense to do an annual, big, heavy-lift security assessment. [Risk assessment] has to be something that's baked into what you do," says Julie Cain, ETS's strategic adviser for IT risk management.

Previously, when Cain's department assessed a risk in the company's IT platforms, such as a third-party search engine provider, the organization's risk managers had to jump through bureaucratic hoops. Proceeding through a battery of technology, network connectivity, and other tests, the assessment couldn't proceed until the search engine was deemed adequately risk-free in each category. "You couldn't go forward until you had passed the assessment and the [ETS] security organization blessed whatever it was that you were going to do," recalls Cain.

That system has been replaced by what she sees as a more agile environment. "Things happen so rapidly and on so many levels at the same time that you really can't have these monolithic gates anymore," she says. They stall the risk assessment of processes like procuring IT security products, contracting for outside services, and internal risk management development.

In place of the gates, ETS's security organization equips employees and managers who work outside the security team with frameworks, checklists, and a method of ranking the severity of risks so they can do their own risk assessments. At the beginning of a project, non-IT people can "quickly determine the risk level, and that risk level determines what type of assessment and what type of vetting needs to occur," Cain explains.

The company's major risks stem from its handling of two forms of highly desirable information: the test scores of famous people and the answers to tests about to be taken. "People want to know what Trump's SAT score was, right?" she asks.

"You're ... going to be treated as untrustworthy, until you have proven to the system each and every time that you are trustworthy."

—Kees Leune, CISO, Adelphi University

Courtesy of Adelphi University

Beyond the Perimeter

Moving to a context-based security approach requires in-depth understanding of people and devices.

How do you build your trust model around people and devices as opposed to networks? In a blog post, Max Saltonsall, technical director in the office of the CTO at Google, described some of the best practices. For one, to move from a "privileged" corporate network (with a VPN at its core) to a zero-trust one, the company has to know both its people and its devices.

"Without a reliable, up-to-date set of data about the people and the machines, we can't make good decisions about access," he wrote.

Google, according to Saltonstall, had to reshape its array of job classifications "so [it] could more accurately capture what people were actually doing day to day, and what sort of access they required by role."

As important as people are in the scheme, devices are equally so. Timely, accurate information on the devices employees were using was critical. "We do not want to extend trust to a person, only to have them use an infected device and inadvertently share the information they have access to with an attacker," Saltonstall wrote.

To ensure accuracy, Google had to centralize the information from multiple systems that were tracking device inventory—asset management tools, DHCP servers, wireless access logs, and tech support systems among them. "Creating this new master inventory service took a large investment of time and effort, but has given us a much more unified look at our multitude of devices," according to Saltonstall. With a better picture of what workers are using, Google can make "trust evaluations" based on installed software, patch level, and other characteristics. | **VINCENT RYAN**

Foreign students who want to attend U.S. universities have a much bigger incentive to access ETS's systems. They want to steal answers from upcoming English-as-a-second-language exams. For some of those students, passing the required tests and getting into college may be a way to "really raise [a] family out of poverty," she notes.

Considering its widespread data security risks, ETS would be a prime candidate for a beyond-perimeter approach. After all, the organization develops, administers, and scores more than 50 million tests a year in more than 180 countries at more than 9,000 locations worldwide.

But it's not there yet. While the company is in the midst of migrating to the cloud—a prerequisite for a zero-trust approach—some of its risk resides behind an on-premises firewall. And the cost of going full-on into the new framework would be prohibitive.

Still, says Cain, "every decision that we are making is being informed by where we want to be"—which, ultimately, is beyond the perimeter.

Stakeholder Risks

Unlike ETS, which focuses on threats to its cache of information, Adelphi University's cyber-risk assessments revolve around human vulnerabilities. The university has three risk assessment processes, each addressing a different group of stakeholders: administrative staff, students, and faculty.

Risk assessment of the administrative staff is easiest and most routine.

"We can work with executive leadership fairly effectively in getting technology choices influenced, decisions made, and policies written and enforced," Leune says.

With staff, the information security department holds the most sway. In ongoing assessments, Leune probes what kind of information the administration has in-house that would be valuable to outsiders.

Things get stickier when it comes to judging the cyber risks incurred by the student body and campus visitors. Much like an internet service provider, the university runs an open-access network for resident students and guests. Visitors "expect to have pretty smooth internet access without many limitations," Leune says.

"It no longer makes sense to do an annual, big, heavy-lift security assessment. Risk assessment has to be something that's baked into what you do."

—Julie Cain, strategic adviser for information and technology risk management, Educational Testing Service

"While I can tell an employee what to do, I cannot tell a student what to do [to prevent cyber] risks," he adds. That's true for two reasons. One, the university provides the service as nothing more than a utility over which it has no control. Two, "they're bringing in their own devices anyway," Leune explains.

As uncontrollable a risk as that sounds, the university's exposure to breaches of faculty networks is even worse. Under the aegis of academic freedom, faculty members can pursue their interests in whatever way they feel is most appropriate. "As a result, while we can put some barriers up, if those barriers are going to actively interfere with their ability to do research or teaching, then we are not doing our job well," Leune says.

Because managing these differing cyber risks is a complex matter itself, the university is better suited to a simpler, firewall-based approach to cybersecurity than to a more complex zero-trust approach, according to Leune. "The aim of perimeter-based protection is that you have one single point of control and one single point of complexity," he says. "With BeyondCorp, every node has its own perimeter and its own management infrastructure. Just that alone makes it more complex."

Cloud Concerns

Besides cost and complexity, the fact that the zero-trust approach resides in the cloud causes hesitation among some managers who might otherwise deploy it. "One of the biggest concerns for all risk managers these days is ... the aggregation of information that's in the cloud," says Kristen Peed, director of corporate risk management for CBIZ, a management services company. "If your stuff is in the cloud, and the cloud is hacked, you're still responsible for it."

To Dannie Combs, the CISO at Donnelley Financial Solutions, the switch to cloud-based solutions represents a loss of control over cybersecurity. "You are operating in a multi-tenant environment, and you're relying very heavily on a third party like Amazon or Rackspace—the list is growing every day—to provide you with the basic 'blocking and tackling' of risk management," he says.

"You don't control that perimeter on-premises in a way that was common practice just a few years ago," Combs adds.

Srinivas says midsize companies whose information resides in the cloud to begin with have an easier path to adoption than bigger companies in the process of cloud migration.

"Larger companies with lots of legacy systems need more thought and planning for BeyondCorp," Srinivas says, "simply because their IT setup is more complicated." CFO

David M. Katz is a freelance writer and former CFO *editor based in New York.*

Courtesy of Educational Testing Service

CFOs Discern a Downturn

When will the long growth cycle end? Nearly half of U.S. CFOs think its demise will come by the fourth quarter. By Lauren Muskett

Can the exact timing of a recession be predicted? Probably not. But the warning signs on the horizon were unmistakable in the fourth quarter Duke University/*CFO* Global Business Outlook survey.

Almost half (49%) of U.S. finance chiefs indicated the domestic economy would be in a recession by the end of 2019, with 82% believing the reversal of economic fortunes would start by the close of 2020.

The global economy has been on a growth streak for nearly a decade, particularly in the United States.

"The end is near for the near-decade-long burst of global economic growth," said John Graham, a finance professor at Duke's Fuqua School of Business and director of the survey. "The U.S. outlook has declined; moreover, the outlook is even worse in other parts of the world, where demand for U.S. goods will be softer."

The global finance chiefs responding to the survey were asked, "In which quarter do you expect a downturn (recession) will occur [in your country]?" In the United States, close to 17% chose the third quarter of 2019, with another 13% selecting the fourth quarter.

The majority of U.S. CFOs projected a downturn would arrive by at least the second quarter of 2020.

"The U.S. outlook has declined; moreover, the outlook is even worse in other parts of the world, where demand for U.S. goods will be softer."

—John Graham, professor, Duke's Fuqua School of Business

"CFOs are getting ready for a recession in the next 18 months," said Campbell Harvey, a Duke finance professor.

"All of the ingredients are in place: a waning expansion that began in June 2009 — almost a decade ago — heightened market volatility, the impact of growth-reducing protectionism, and the ominous flattening of the yield curve, which has predicted recessions accurately over the past 50 years."

Front-Loaded

Clearly, though, finance chiefs didn't expect a cataclysmic full-year contraction. Respondents projected sub-3% annual growth for U.S. gross domestic product (GDP) in 2019, a figure in line with estimates by most economists and the Federal Reserve Open Market Committee.

With that level of growth expected, the median projection of finance chiefs for capital spending in 2019 was 2% and of growth for employment 3%.

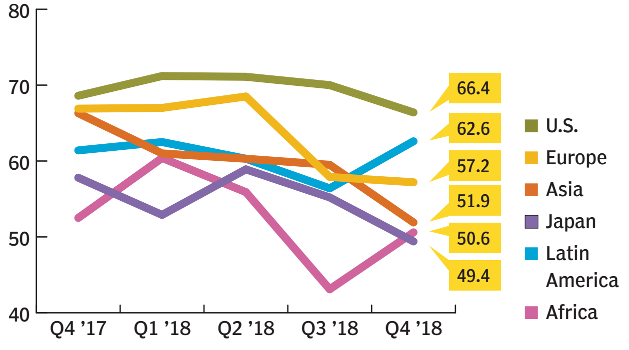
"Their recession projections suggest CFOs believe most of [2019] growth will occur early in the year," Graham said. "That means there is still time for the federal government to use the tools at its disposal to soften the fall."

When asked to estimate the worst-case scenario for GDP growth (with a 1-in-10 chance of happening), CFOs said growth could shrink to as little as 0.6% for 2019. In that event, median capital spending, according to CFOs' projections, would fall instead of rise — by 1.3%. Hiring would be flat.

Entering 2019, CFOs said they continued to be bedeviled by how difficult it was to hire and retain qualified employees. However, the 47% of CFOs calling it a top-four concern was down six percentage points from the

Economic Optimism Falls in U.S.; LatAm, Africa Hopeful

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



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

Source: Duke's Fuqua School of Business

two-decade high in the third quarter of 2018. Other top CFO worries included the cost of employee benefits, government policies, economic uncertainty, and rising wages and salaries.

Adding to the recession signals, the CFO optimism index for the U.S. economy slipped to 66 (on a scale of 0 to 100) in the fourth quarter, down from an all-time high of 71 in September. The index, which has been measured for 91 consecutive quarters, has historically been an accurate predictor of future hiring and overall GDP growth. CFOs' optimism about their own firms' financial prospects, meanwhile, dropped two points to 69.

82%

U.S. finance executives surveyed who think a recession will start by the close of 2020.

International Consensus

Global growth is expected to decelerate over the next two years, according to the World Bank, putting many countries in the same boat as the United States. International CFOs responding to the survey were just as glum as (or more than) their U.S. peers. For example, CFOs in Canada and Europe projected a similar time frame for a recession — 86% in Canada and 67% in Europe said their countries would see a recession by the close of this year.

The pessimism was also reflected in the Canadian and European CFOs' optimism levels.

Optimism about the domestic economy in Canada dropped to 50.4 from 58 a quarter earlier. Similarly, economic optimism among CFOs in Europe slid almost a point, to 57.2, after falling 10 points in the third quarter.

In the best case, CFOs in Canada said, domestic GDP would rise 1.8% in 2019; their worst case was 0.75%. European finance chiefs gave similar best and worst scenarios for their region.

Among European CFOs, the top concern was attracting and retaining qualified employees, followed by economic uncertainty and government policies. Currency risk (heightened by the still-strong U.S. dollar) and employee productivity also made the list of top-five concerns. European CFOs expected capital spending and employment by their companies to grow both by about 2% in 2019.

There were bright spots elsewhere. Economic optimism among CFOs in Latin America rose to 62.6 from 56.4. The World Bank estimates that real GDP growth in Latin America and the Caribbean will rise to 2.3% in 2019. Still, the region's businesses face a tough 12 months as investors eye emerging markets warily. Cheap oil will dampen sentiment about Latin American economies.

"Economic uncertainty" led the list of CFO concerns in Latin America, with "weak demand for products/services" third and currency risk and access to capital taking the fourth and fifth spots.

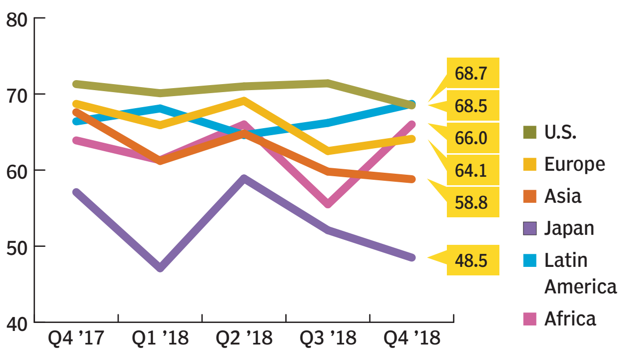
Among finance chiefs in Africa optimism also increased, with the index hitting 50.6, from a very low 43.1 the previous quarter. The higher optimism level was not a total surprise, given the World Bank projects GDP growth of 3.5% for sub-Saharan Africa in 2019 and 3.3% for the Middle East and North Africa in 2019. Those numbers do not include the continent's fastest-growing region, East Africa, where economists expect economic growth of more than 6%.

CFOs in Africa had top concerns similar to those of finance chiefs in Latin America, except in Africa "volatility of the political situation" made the top five.

The fourth quarter Duke/*CFO* survey ended December 7, 2018. It generated responses from more than 500 CFOs, including 226 from North America. CFO

Company Confidence Rises in LatAm and Europe

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



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

Source for all charts: Duke University/*CFO* Magazine Global Business Outlook Survey of finance and corporate executives. The survey concluded December 7, and generated responses from more than 500 CFOs, including 226 from North America, 48 from Asia, 82 from Europe, 122 from Latin America, and 32 from Africa.

Source: Getty Images

Recurring Revenue Rising

As more companies adopt recurring revenue products, CFOs try to plan for the necessary changes in processes and IT systems. By Chris Schmidt

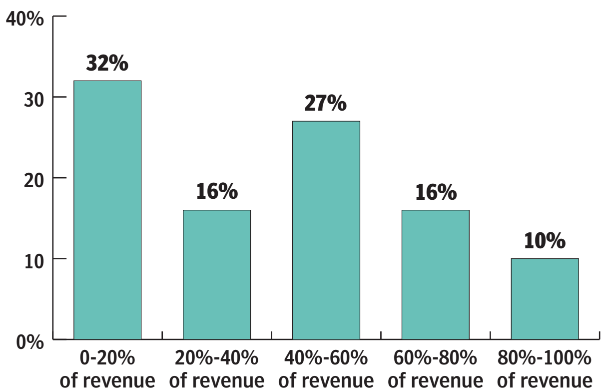
Recurring revenue business models, also known as subscription or usage-based models, are opening up new opportunities across many industries — even in sectors where they haven't traditionally. For example, the subscription model has taken root in industrial sectors, like heavy equipment manufacturing, and in specialty markets such as medical devices.

A survey of senior finance executives by CFO Research, in collaboration with Salesforce, showed recurring revenue models are well established and growing. More than half (53%) of the CFO Research/Salesforce survey respondents said at least 40% of their organizations' revenues were recurring, that is, sold via a subscription- or usage-based model. (See Figure 1.)

Two key benefits accrue from recurring revenue models. First, the initial sale becomes just the starting point of an ongoing customer relationship that can present an abundance of chances to upsell and increase share of wallet. Second, the seller receives a series of payments over a product or service's lifetime instead of a single upfront payment. As a result, cash flows are steadier and less likely to suffer a sudden drop. That makes planning easier for the finance team.

FIGURE 1

What percentage of your company's revenue is usage- or subscription-based?



Percentages do not add to 100 due to rounding

Those advantages have C-suite executives' and boards of directors' mouths watering. Both are increasingly committed to developing recurring revenue. According to the CFO Research survey, 23% of C-suites and boards at respondents' companies were incorporating such business models into their strategic planning. In addition, 17% of C-suites and boards were planning to launch a new or additional recurring revenue business in the near term.

Seeing the Obstacles

Build a subscription business and they will come? Not exactly. However attractive the product, internally the organization may face unique operational hurdles. Of the companies launching a recurring revenue product or service, nearly two-thirds (65%) of those surveyed faced operational problems in doing so. The problems arose in numerous areas — from not being set up to process, track, and manage recurring revenue, to not having the tools to manage and leverage the data produced by subscription sales, to not using the metrics that the business model demands.

More particularly, basic tasks such as calculating and managing pricing can become much more complex, because prices can vary according to subscription levels, term lengths, and product or service bundling. Renewing customer contracts, for example, can be a headache. Process-driven delays for a recurring revenue customer can limit opportunities for renewals. And the sales function often adds to operational challenges by demanding too much flexibility in product design and pricing, which can result in manual downstream processes to clean up confusing invoicing and billing.

Finally, nearly half (48%) of companies with a recurring revenue business model struggle to meet accounting and reporting challenges created by the dynamic customer relationship. As of December 2017 (a year later for private companies), such revenue has had to be recorded according to ASC 606 and IFRS 15 standards, which stipulate revenues have to be recognized when realized and earned, not necessarily when received. If not properly managed, those accounting rule changes can lead to audit and compliance issues.

48%

Of companies with a recurring revenue business model struggle to meet accounting and reporting challenges created by the dynamic customer relationship

Overcoming Pain Points

Selling via subscription model can also necessitate IT modifications. Traditional systems, for example, have a hard time handling bundling. When a subscription product or service is sold with upgrades or add-ons, a traditional system may create a new SKU for every change to the bundle, producing a dizzying array of pricing, bundling, and distribution combinations.

That can lead directly to some of the pain points identified in the survey: inaccurate forecasts and reporting based on inconsistent or imprecise tracking of existing sales, for example, or collections problems due to invoice disputes. (See Figure 2.) A traditional order and invoicing approach can also lead to frustrated customers and subscription terminations if multiple cancelled invoices and new invoices are produced with every change.

Typically, companies that transition to a recurring revenue model use their existing customer relationship management and ERP systems. Since most ERP systems are designed for transactional businesses, it can be difficult for them to handle sales spanning multiple periods. When product sales reach $75 million to $100 million annually, the problems with old systems start becoming insurmountable. Thus, nearly two-thirds (67%) of survey respondents were actively explored new processes or systems to support recurring revenue products or services.

What can happen when the obstacles are overcome? Finance executives have high expectations. A majority (57%) of the surveyed finance executives indicated solving their “quote-to-cash” pain points (product configuration to payment) would lower finance and sales costs by at least 5%. A similar majority (55%) also believed it would increase enterprise revenue by at least 5%. And nearly three-quarters of respondents (73%) said both sales and finance would benefit from a solution that supports dynamic and recurring contracts.

In addition, more than seven in 10 of the surveyed finance executives (71%) indicated a more efficient pricing and approval process would substantially improve their organizations’ profitability.

FIGURE 2

Top 10 Pain Points to Solve

1.	Inaccurate sales or financial forecasting
2.	Inaccurate reporting
3.	Lengthy new product or market launch timelines
4.	Manual processes to create or manage orders or invoicing
5.	Collections difficulties due to invoice disputes
6.	Broken system integrations
7.	Renewals forecasting and management
8.	Tax calculation difficulties for subscription-based products
9.	Lack of or lengthy pricing approvals
10.	Inaccurate prorating of charges for subscription products

Constant Attention

Systems issues are only part of the battle, however. A cultural shift is required to build and grow ongoing customer relationships. Renewals often require the same level of attention as new sales — though many companies’ sales efforts skew toward generating new business. Sales and marketing become more involved in the lifecycle of the customer at all potential transaction points. In addition, many non-sales groups in the company become customer facing, and interactions between finance and accounting, services, and sales and marketing occur daily, not quarterly.

Improved coordination between the sales and finance teams is a key to success. Two-thirds (67%) of the finance executives said finance leadership should better align with sales leadership to improve forecasting and maximize revenue growth. More than eight in 10 (81%) said sales and finance would benefit from improved collaboration and better communication about customers and contracts.

Finance is enjoying the advantages the new subscription models offer, especially the real-time data generated to help decision-making and the steadier cash flows produced. But when launching recurring revenue products, CFOs need to have their eyes wide open. Operational, cultural, and technical complications can hinder the realization of even the most promising market opportunities. CFO

Source: Getty Images

On the Go

Controlling travel costs may not be the first thing on a CFO's mind, but large companies spend several hundred million dollars annually on business travel. Airfare, hotel stays, rental cars, and meals quickly add up. Take a crack at our quiz on travel costs, based on information provided by *Business Travel News*. All numbers are for calendar year 2017.

1 Which company had the largest U.S.-booked dollar volume of air travel ($495 million)?

A. IBM
B. Deloitte
C. ExxonMobil
D. Apple

2 Among U.S. cities, New York had the highest average daily rate for an upscale hotel (including taxes and surcharges) at $393. Which U.S. city was the next costliest?

A. San Francisco
B. Boston
C. Los Angeles
D. Washington

3 What was the average cost of dinner for one (soup, steak filet, glass of wine, dessert, and coffee) in New York, according to an NYU study?

A. $62.39
B. $86.90
C. $55.70
D. $71.45

4 Across 100 large U.S. cities, what was the average total per diem expense for a hotel room, three meals, and a rental car?

A. $467
B. $325
C. $399
D. $291

5 What city was NOT among the five most expensive on a per diem basis (hotel, three meals, taxi from airport to city center) in Asia?

A. Hong Kong
B. Tokyo
C. Seoul
D. Singapore

6 Which was the most expensive non-U.S. city for three daily meals?

A. Paris
B. Shanghai
C. Brussels
D. Zurich

7 Which U.S. airline did travel buyers rate as providing the greatest value relative to fares, fees, and services?

A. American
B. Delta
C. Southwest
D. United

8 Which luxury hotel brand did travel buyers cite as offering the best price-to-value relationship?

A. Ritz-Carlton
B. Fairmont
C. Four Seasons
D. Grand Hyatt

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

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