

Exchange

Association for Financial Professionals' Quarterly Magazine

What's Next for FP&A?

Financial Planning & Analysis Ponders Its Future

Decentralized Budgeting
Meets Headcount Planning

How Machine Learning
Improves Forecasting

The First FinNext Tech
Challenge Champion

5 Practices of Highly
Effective FP&A Teams

Case Study: Verizon
Upskills Finance

Can Finance
Measure Innovation?

PLUS:
Libor Fallback
Language



MoneyPort. Global liquidity management, maximized.



Managing your daily liquidity requirements isn't what it used to be – it's far easier. With MoneyPort®, our liquidity custody portal, you get unparalleled control over your short term cash, with access to more than 150 money market mutual funds^{1,2} from around the world as well as a variety of deposit accounts³ and ultra-short bond funds—all through a single, dynamic liquidity custody portal.

Whether you're selecting in U.S. dollars, Canadian dollars, euros, or British pounds, you'll have the analytics, research, trading, and alert tools you need, all within your reach through your MoneyPort custody account. MoneyPort is an integral part of the MUFG Union Bank, N.A., global custody platform. For more information, call us at 800-490-8262.

mufgamericas.com/moneyport

MUFG Union Bank, N.A.

A member of MUFG, a global financial group



¹ For Government Money Market Mutual Funds (MMMMF), you could lose money by investing in the Fund, and although the Fund seeks to preserve the value of your investment at \$1.00 per share, it cannot guarantee it will do so.

For Institutional Prime Money Market Mutual Funds (MMMMF), Institutional Tax-Exempt Money Market Mutual Funds (MMMMF) and Ultra-Short Bond Funds (USBF), you could lose money by investing in the Fund, and because the share price of the Fund will fluctuate, when you sell your shares they may be worth more or less than what you originally paid for them and there may be tax consequences, including capital gains or losses.

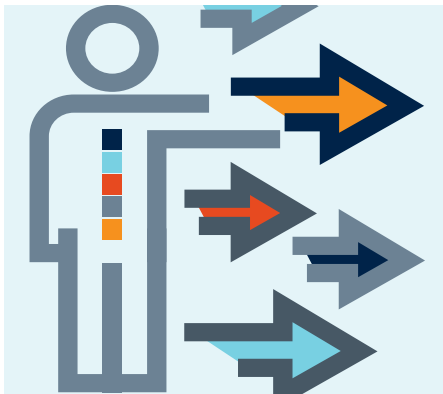
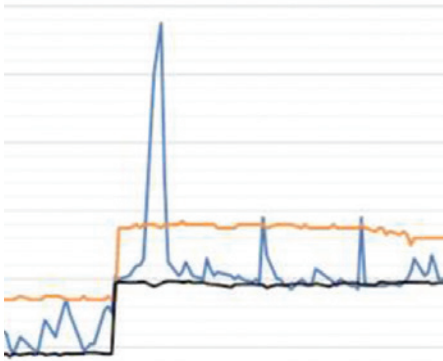
Before investing carefully consider the investment objective, risks, charges, and expenses contained in the prospectus, which is available for free from the Fund's sponsor. Read the prospectus carefully before investing. An investment in the Fund is NOT insured by the FDIC or by any other federal government agency, is NOT a deposit of or guaranteed by MUFG Union Bank, N.A. (Bank) or any Bank affiliate, and MAY lose value, including possible loss of principal. A MMMF may impose a fee upon sale of your shares or may temporarily suspend your ability to sell shares if the Fund's liquidity falls below required minimums because of market conditions or other factors. The Fund's sponsor has no legal obligation to provide financial support to the Fund, and you should not expect that the sponsor will provide financial support to the Fund at any time. An USBF is not a "money market" mutual fund, and is not governed by, nor does it comply with, relevant Securities and Exchange Commission rules for such funds. Additionally, the Fund Company may apply frequent trading limitations to transactions in the Fund. For further information, refer to the Fund prospectus.

² Offshore funds available only to certain qualified investors.

³ Reference is to certain omnibus interest bearing deposit accounts maintained at MUFG Union Bank and certain branches and offices of MUFG Bank, Ltd. including MUFG Bank, Ltd., Canada. MUFG Union Bank, N.A. is a member FDIC and its banking products are insured up to applicable FDIC insurance limits. MUFG Bank, Ltd. is not a member FDIC and its products NOT insured by the FDIC or other government agency. MUFG Bank, Ltd., Canada Branch is NOT a member Canada Deposit Insurance Corporation (CDIC) and its deposit products are NOT insured by the CDIC or by any other government agency.

©2019 Mitsubishi UFJ Financial Group, Inc. All rights reserved.

The MUFG logo and name is a service mark of Mitsubishi UFJ Financial Group, Inc., and is used by MUFG Union Bank, N.A., with permission. Member FDIC.



26

AFP Research

Results from the 2019 AFP Payments Fraud and Control Survey
AFP Research Department

32

Libor

Corporates turn to Ameribor, a Libor replacement
John Hintze

34

Budgeting

Decentralized budgeting meets headcount planning
Joanne E. Brunn, PhD

37

FP&A

PowerPivot and DAX
Matthew Mowrey

42

Fintech

The first FinNext Tech Challenge champion
Dominick Fatibene

45

FP&A

How FP&A has changed—and what lies ahead
Harshit Chatur, CTP, FP&A

49

Research

Five practices of highly effective FP&A team
Nathanael Vlachos, Rachele Collins, Steve Player and Bryan Lapidus, FP&A

52

Career Development

Here's how Verizon upskilled its finance team
Ira Apfel

55

Leadership

10 leadership lessons from Chip Colbert
Jim Kaitz

57

Treasury Management

Machine learning can improve cash forecasting
Jason Dobbs and Kyle Olovson, CTP

60

Corporate Finance

Treasurers are changing operations to obtain financing
Andrew Deichler

62

February-March 2019 Certified Corporate FP&As



4 From the President & CEO

Jim Kaitz

6 Current Events

Libor fallback language

Andrew Deichler

8 Global Treasury

Open banking in Europe and the UK

Cristina Pintado

12 FP&A Foresights

How can finance measure innovation?

Karl Kern

16 Risk Column

Hedging with caps and floors

Ira Kawaller

20 Treasury Essentials

Managing the tax risks of cash pools

Stefanie Perrella and Beau Sheil

24 Payments Essentials

An API AMA

Staff Writers

64 The Bottom Line

Okay Computer

Ira Apfel



Take the AFP CE Recertification Quizzes

After you've finished reading this issue, head over to the CE quiz page and take the latest Exchange quiz. CE credit quizzes allow CTP, CCM, and FP&A holders to test their knowledge on timely industry topics. They are accepted as credits for recertification. An online format allows for automatic pass/fail notification.

Quizzes are valid for two years from the date the source material was originally published. You will have 90 days from the date of purchase to complete a quiz, although you should complete the quiz before the end of your reporting cycle.

Purchase a quiz at www.AFPonline.org/CEquiz

AFP OFFICERS

CHAIRMAN OF THE BOARD

Robert Whitaker, CTP
DHL

VICE CHAIRMEN OF THE BOARD

Terry Crawford, CTP
AMC Entertainment Inc.

VICE CHAIRMEN OF THE BOARD

Jordan Krugman, CTP
Invesco Ltd.

PAST CHAIRMAN OF THE BOARD

Jeff Johnson, CTP, CPA
Amesbury Truth

PRESIDENT AND CHIEF EXECUTIVE OFFICER

James A. Kaitz
AFP

BOARD OF DIRECTORS

Irena Barisic, FP&A
Brookings

Christopher Fulton, CTP
Selendy & Gay, PLLC

Jonathan Hall, CTP

Michael High, FP&A, CMA
Royal Dutch Shell

Ferdinand Jahnel, CTP
Marsh & McLennan Companies, Inc.

Joan Piscitello, CTP
Iowa State University

Fred Schacknies
Hilton Worldwide, Inc.

Tamara Saront-Eisner, CTP
Air Liquide

Matthew Skurbe, CTP
The Blackstone Group L.P.

Gaileon Thompson, CTP, FP&A
CitiBank

Meredith Vance, CTP
NTT DATA Services

AFP EXCHANGE EDITORIAL ADVISORY BOARD

CHAIRMAN

Suzanne S. Allen, CTP
CompuDyne Corp.

MEMBERS

Nancy C. Griffin
SunTrust Bank

Kari Kingori
Laney College

Florie Petti
PwC

Michele L. Scott, CTP
International Paper Co.

Joseph Tinucci, AAP
University of Colorado

Karen O. Trickle
Journal Communications, Inc.

Eileen Zicchino
Bank of American Merrill Lynch

COMMITTEES, PROJECTS, TASK FORCES

AUDIT COMMITTEE

Matthew Skurbe, CTP
The Blackstone Group L.P.

CERTIFICATION COMMITTEE

Terri K. Mimms, CTP, FP&A
Purdue University

CTP BODY OF KNOWLEDGE COMMITTEE

Jim Gilligan, CTP, FP&A
Great Plains Energy, Inc.

FP&A ADVISORY GROUP

Geetanjali Tandon
Bayer

TREASURY ADVISORY GROUP

Sarah Schaus
Allianz Life Insurance Company, N. A.

POLITICAL ACTION COMMITTEE

Jim Gilligan, CTP, FP&A
Kansas City Power & Light Co.

Exchange

PRESIDENT AND CHIEF EXECUTIVE OFFICER

James A. Kaitz

COMMUNICATIONS DIRECTOR

Ira Apfel

EDITORIAL MANAGER

Andrew Deichler

SENIOR PRODUCTION DESIGNER

Amy B. Cooley

CONTRIBUTING AFP WRITERS

Bryan Lapidus, FP&A

ADVERTISING

Kevin Boyle
Sales Executive

CUSTOMER SERVICE

customerservice@AFPonline.org

AFP EXCHANGE

4520 East-West Highway,
Suite 800
Bethesda, MD 20814
T: 301.907.2862
F: 301.907.2864
www.AFPonline.org

Exchange@AFPonline.org

ABOUT AFP®

The Association for Financial Professionals (AFP) is the professional society committed to advancing the success of its members and their organizations. AFP established and administers the Certified Treasury Professional and Certified Corporate FP&A Professional credentials, which set standards of excellence in finance. Each year, AFP hosts the largest networking conference worldwide for over 6,500 corporate finance professionals.

AFP EXCHANGE, Summer 2019 (ISSN 1528-4077), is published quarterly at \$90 per year for nonmembers by the Association for Financial Professionals, 4520 East-West Highway, Suite 800, Bethesda, MD 20814. Periodicals postage at Bethesda, MD, and additional mailing offices. POSTMASTER: Send address changes to AFP Exchange 4520 East-West Highway, Suite 800, Bethesda, MD 20814.

FOLLOW US ON





JIM KAITZ, PRESIDENT & CEO

SELF-IMPROVEMENT

Dear AFP Members,

I want to share with you a quote from a book I just recently read:

“Education is what other people do to you; learning is what you do to yourself.”

This observation was made by Joi Ito, director of MIT Media Lab, in his book “Whiplash: How to Survive Our Faster Future.” He offered many more powerful insights in our recent *AFP Conversations: Leadership Series* podcast, but this one struck a chord with me.

As many of you know, I am a strong proponent of lifelong learning. I regularly speak to audiences at home and abroad about this topic. My premise is straightforward: Technology is disrupting every organization so rapidly, including the finance function, that we must continually upskill our knowledge base to stay relevant in our jobs.

Some of you may think that education and learning are the same thing. But there is an important distinction. Education often is an institutional activity—think college and graduate school. Education is an important foundation for your career, of course, but it not enough particularly in today’s business environment. Continuous, self-directed learning is critical for ongoing professional success, and AFP has many tools to help finance professionals continue their learning journey.

Consider, for example, AFP’s Certified Corporate FP&A Professional and Certified Treasury Professional credentials. The information in these courses is so powerful that completing them will materially enhance your career. In addition, finance professionals can participate in customized online training; ask peers questions on Collaborate, AFP’s private message board; and network with colleagues at AFP 2019 this October in Boston.

AFP 2019 is a particularly unique learning opportunity. With more than 7,000 treasury and finance professionals in attendance, more than 200 exhibitors and over 140 educational sessions, there is no better networking and learning event than AFP 2019.

AFP offers multiple ways for practitioners to improve their skills and knowledge. My advice is to be a proactive learner throughout your career. The investment will bring many benefits to your professional life.

Sincerely,

Jim Kaitz
President and CEO

A SAFE, LIQUID OPTION FOR YOUR LARGE DEPOSITS.



Use ICS[®] as a Cash Management Tool

With Insured Cash Sweep[®], you can earn a return, enjoy daily access to funds, and rest assured knowing your funds are eligible for multi-million-dollar FDIC insurance. ICS can be a strong alternative to Treasuries and other government-backed or insured funds.

Visit InsuredCashSweep.com/AFP to learn more.



Placement of funds through the ICS service is subject to the terms, conditions, and disclosures in the service agreements, including the Deposit Placement Agreement ("DPA"). Limits and customer eligibility criteria apply. In the ICS savings option, program withdrawals are limited to six per month. Although funds are placed at destination banks in amounts that do not exceed the FDIC standard maximum deposit insurance amount ("SMDIA"), a depositor's balances at the relationship institution that places the funds may exceed the SMDIA (e.g., before ICS settlement for a deposit or after ICS settlement for a withdrawal) or be ineligible for FDIC insurance (if the relationship institution is not a bank). As stated in the DPA, the depositor is responsible for making any necessary arrangements to protect such balances consistent with applicable law. If the depositor is subject to restrictions on placement of its funds, the depositor is responsible for determining whether its use of ICS satisfies those restrictions. ICS and Insured Cash Sweep are registered service marks of Promontory Interfinancial Network, LLC.

Libor Fallback Language: What Treasurers Need to Know

ANDREW DEICHLER

Fallback language for the London Interbank Offered Rate (Libor) has been released. This language indicates the rate that corporates would fall back on, should Libor become unusable after 2021.

The Loan Syndications and Trading Association (LSTA), a member of the Alternative Reference Rates Committee (ARRC), has issued a guidance on the Libor fallback language for syndicated loans. As the LSTA notes, many loans will be outstanding when Libor ceases, and thus it is “critical” to develop fallback language in any new loans and collateralized loan obligations (CLOs).

In the United States, the Secured Overnight Financing Rate (SOFR) is poised to replace derivatives, and may also take over for loans, CLOs and floating rate notes. Since SOFR is secured and is expected to be lower than Libor, loans that fall back to it will require a spread adjustment to make the rate more comparable to the current benchmark, the LSTA explained.

Fallback language is contingent on a “trigger”, i.e., an event that initiates the switch from Libor to a new rate (e.g., the benchmark administrator or the administrator’s regulator announcing that the benchmark will cease, or a public statement from the regulator that the benchmark is no longer representative). Fallback language also requires a replacement rate to take over for the current benchmark.

Two types of fallback language

The ARRC has developed two versions of fallback language for syndicated loans:

- **The amendment approach:** Following a trigger event, the bank group enables a streamlined amendment to replace Libor.
- **The hardwired approach:** Fallback language is built into the original credit agreement so that the loan can automatically convert to a new rate in the event that a trigger occurs.

The LSTA noted that both versions have their pros and cons. The amendment approach takes advantages of loans’ flexibility and doesn’t lock market participants into a rate that doesn’t actually exist yet. But it also is subject to potential manipulation depending on the economic landscape at the time of the transition. Additionally, if thousands of loans need to be transitioned at the same time, this approach might not actually be plausible.

Meanwhile, the hardwired approach would not be subject to manipulation and would likely be more workable en masse when Libor ceases to exist. But it requires participants to agree to a rate that does not yet exist. Thus the LSTA surmises that the market may choose the amendment approach until there is greater clarity on Term SOFR.

Switching ahead of schedule

The LSTA noted that corporates can switch loans to SOFR before the Libor cessation. For the hardwired approach, once it has been identified that a certain number of loans have used Term SOFR plus a spread adjustment, then the agent, required lenders and the

borrower can switch to Term SOFR by affirmative vote. For the amendment approach, it can be determined that loans are being executed or amended to incorporate or adopt a successor rate and can elect to switch to that rate.

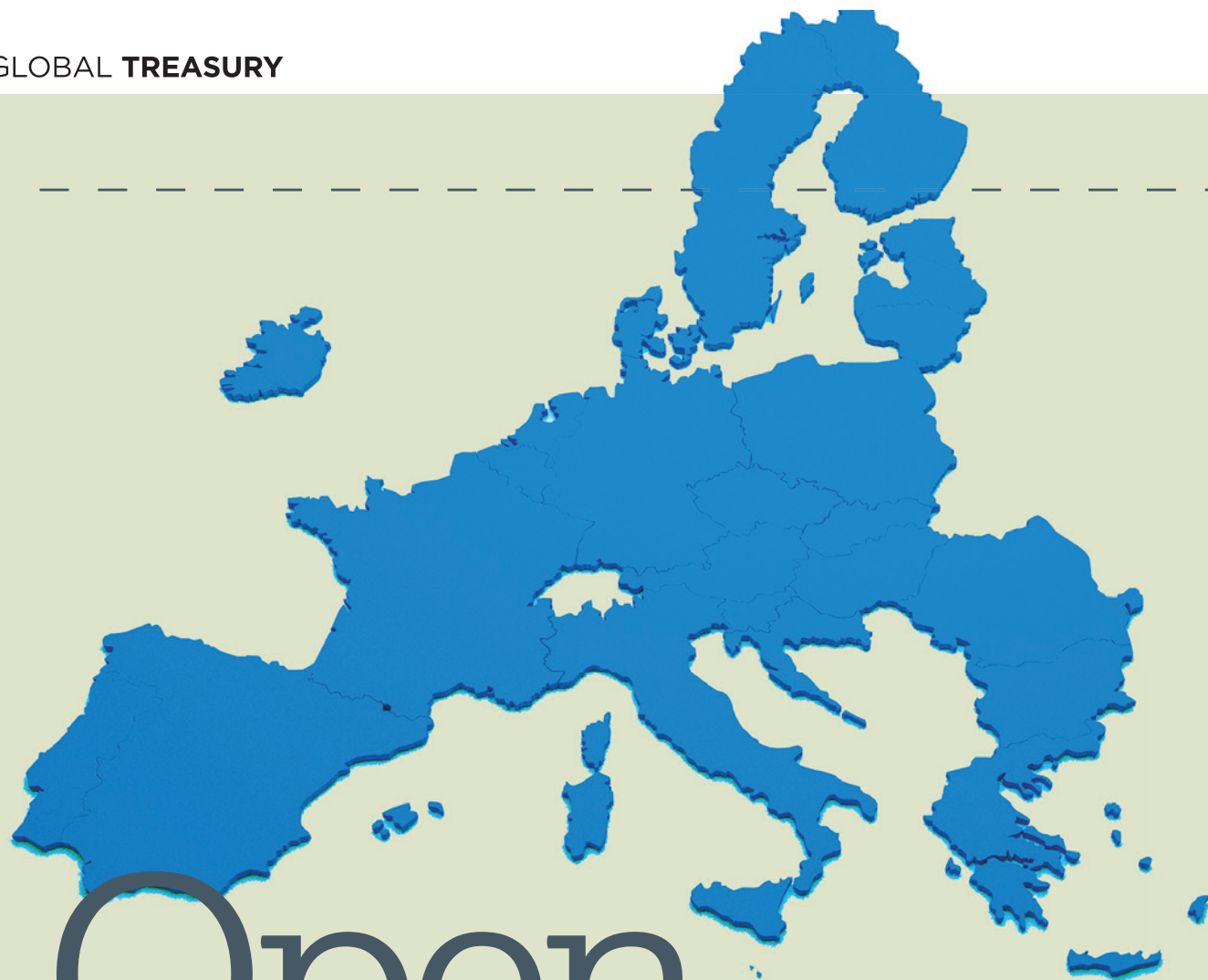
The ARRC is encouraging market participants to switch to SOFR for cash products ahead of Libor cessation, and has even released a white paper to help them do that. That makes sense; after all, SOFR is the ARRC’s preferred alternative to U.S. dollar Libor. But the ARRC also noted that SOFR has certain characteristics that could make it an improvement on Libor:

- SOFR is produced by the Federal Reserve Bank of New York “for the public good”
- The rate is derived from an active and well-defined market, which makes it difficult to manipulate or influence
- It is based on observable transactions, rather than dependence on estimates
- SOFR is derived from a market that weathered the global financial crisis, and the ARRC believes that signifies that the rate can reliably be produced in a wide range of market conditions.

“We have only a little over two and a half years until LIBOR could become unusable. It’s crucial for the safety of the financial system, and for the many firms using LIBOR, that they not wait to begin a transition. By releasing this white paper, the ARRC shows how market participants can use SOFR and transition now,” said Tom Wipf, chair of the ARRC and vice chairman of institutional securities for Morgan Stanley. “We encourage market participants to begin writing contracts using SOFR instead of U.S. dollar LIBOR.”

A treasury professional who wished to remain anonymous told AFP that the atmosphere lately has been leaning towards shifting financing away from Libor quickly—from syndicated business loans to consumer lending. “In my opinion, we’ll see consumer lending shift first on adjustable rate mortgages,” she said. “Before that can happen, I believe that GSEs need to provide guidance to lenders by including a new rate amongst the eligible rates for qualifying mortgages. To ensure the new ARM product is able to be financed without paying a high premium, it is an easy assumption that discussions are taking place.”

For more insights, visit AFP’s Libor Transition Guide: view.ceros.com/afp/libor/p/1



Open ROAD

CRISTINA PINTADO

Open banking in Europe and the UK

The second Payment Services Directive (PSD2), introduced by the EU in November of 2015, is considered to be the mother of open banking. It lays the foundation for what is happening today in Europe and what will soon happen, I believe, in the rest of the world. The regulation applies to all payment service providers (PSPs), i.e., banks, payment institutions and electronic money institutions, and covers all types of payment accounts and payment methods, except cash and paper-based payments.

The most important component of this directive is that it enables all payment account holders across the EU to provide third-party access to their payment accounts, with their express consent, and it dictates that this access will be done through “strong customer authentication” and “open APIs.”

In addition, it establishes two new types of third-party providers (TPPs):

1. Payment initiation service providers (PISP): Services to initiate payments at the request of customers, with payment being executed by the providers where the accounts are held.

2. Account information service providers (AISP): Multiparty consolidated transaction reporting services.

The directive assigned the European Banking Association the development of the Regulatory Technical Standards, which were published in November 2017 and will be effective beginning in September of this year. The standards specify the requirements of common and open standards of communication for customer authentication and engagement to be implemented by all account servicing PSPs. Once these standards are in place, there will be a number of new entrants and new services coming into play.

UK Open Banking

In August of 2016, the Competition and Markets Authority (CMA) in the UK published the results of a Retail Banking study focused on the banking products offered to consumers and SMEs. In the end, the study concluded that many of the customers banking in the UK were paying above average prices for below average service quality and that the UK banking system, highly consolidated in nine bank providers, was in need of disruption.

If PSD2 was the mother of open banking, then the rules set up by the CMA on behalf of the UK Government was the father. In March of 2017, the CMA mandated the banks to share their product and reference data with authorized third parties in a standard format. This use of a standard format is unique to the UK Open Banking initiative and is proving to be a massive enabler. Today the initiative includes the following scenarios: account information, payment initiation, confirmation of funds and event notification.

Continued on page 10

Fearless Girl is Reinventing Investing

We ignited a global conversation about the power of women in leadership with Fearless Girl, and called on companies to take action. Over 423 companies have now added women to their boards as a result.¹ And our work continues.



Sculpture by Kristen Visbal

Learn more about our Global Cash business, managing \$330 billion² in money market funds and short-term fixed income strategies, at ssga.com/cash

¹ State Street Global Advisors Asset Stewardship Team, March 2019.

² State Street Global Advisors as of March 31, 2019.

©2019 State Street Corporation. All Rights Reserved.
ID16500-2377341.31.GBL.RTL 0519 Exp. Date: 01/31/2020

The main benefits of open banking have yet to be realized. It is still early days, and over time we will see new providers with new products and services—some that are impossible to imagine today and that may go well beyond payments, account information and e-commerce.

There are currently more than 100 TPPs and account providers registered in the UK's Open Banking Directory, making data available through this initiative. One of the practical applications of UK Open Banking that is available today is the possibility for any business selling directly to consumers to collect directly through a bank account at the point of sale, with certainty and in a secure manner, instead of using a credit or debit card. For example, Adyen, a payments processor and a PISP, recently announced that it is enabling KLM to collect directly and in seconds from customers' bank accounts in the UK.

Open banking initiatives are expanding to other countries. For example, the Hong Kong Monetary Authority (HKMA) published the Open API Framework for the Hong Kong Banking Sector in July 2018, and has banks working around the clock to implement API standards that could facilitate an open banking environment by the end of this year. In Mexico, the

Ley para regular las Instituciones de Tecnología Financiera (ITF) was approved in March 2018; this regulation introduces some of the key elements of PSD2, like PISPs and open APIs.

Challenges and benefits

There are of course a number of challenges on the road to open banking. One issue, which I mentioned earlier, is that the UK has clearly defined standards for customer experience and operational guidance, in addition to technical specifications between providers and users, whereas the EU has left the door open by describing APIs as “open,” letting the community decide what that means and regulating only the technical aspect of the communication.

Some of the other challenges in the implementation of open banking are related to banks' technical limitations. Many financial institutions are hampered by legacy core processing systems written in ancient languages like Cobol. Therefore, connecting APIs with the outside world is not an easy task for many banks. Additionally, banks are concerned about losing touch with their best clients and being disintermediated technologically. There is also the question around who owns the data; in Europe under the Global Data Protection Regulation (GDPR), it is clear that the client owns the data and has the right to access that data when and where they direct.

The main benefits of open banking have yet to be realized. It is still early days, and over time we will see new providers with new products and services—some that are impossible to imagine today and that may go well beyond payments, account information and e-commerce.

Some of the immediate implications of open banking for corporate practitioners are the following:

- Consolidated real-time reporting across balances and transactions in all accounts and currencies, translating into better cash flow forecasting
- Payment initiation across a single application
- Significant cost savings through the reduction of connectivity complexity with the banks
- On the business-to-consumer front, merchants could become PISPs or use a TPP and push for cost effective/faster payment methods, i.e., account collection at the point of sale.

In the end the hope is that UK Open Banking and PSD2 will reverse the assessment of the CMA and the European Banking Authority, so that consumers and businesses will be receiving banking services they consider valuable for less money, and the competitiveness of the EU Banking market will significantly increase.

As you can see, PSD2 and Open Banking in the UK will spawn a multitude of new services and increase efficiency for customers. It is therefore important that Corporate Practitioners work closely with their banks and keep a sharp eye on TPPs and other new market developments.



For more insights on PSD2 and open banking, be sure to download the AFP Payments Guide, The New Generation of Third-Party Providers, underwritten by DBS.
www.AFPonline.org/publications

RESEARCH ASSOCIATE opening (New York City).

Develop content regarding exchange-traded funds (“ETFs”), including blogs, webinars and reports; research markets and consumer patterns; make attribution analyses. Need Bachelor’s in finance, business administration. or related; and experience with ETFs + building financial-evaluation models and giving presentations and with client relationship management. Travel not required. Must live in/near New York City. Cannot telecommute fulltime.

Resumes: Global X Mgmt. Co., LLC dba Global X Funds, Job PP, 600 Lexington Ave., Fl. 20, New York, NY 10022; or email to jobs@globalxfunds.com.

Your Business Moves Fast. Can Your Bank Keep Up?



COMMERCIAL SOLUTIONS

Solutions at the speed you need from local bankers you can trust.



918.588.6448 | www.bokfinancial.com

© 2019 BOK Financial Corporation. Services provided by BOKF, NA. Member FDIC. BOKF, NA is the banking subsidiary of BOK Financial Corporation.

Measure Up

How can finance
measure innovation?
Here are 13 ideas.

KARL KERN

Innovation is critical for organizations because it establishes a foundation for long-term survival. So how can finance measure innovation? Simple—inspect what you expect.

The outputs of innovation are visible in the creation of entirely new categories of products and services, or better ways of getting work done. But how can an organization know if the inputs exist that lead employees and management to focus on innovation? One way is to measure the activities and processes that may lead to the outcome you want.

This article provides insights and suggestions to help the finance function measure the precursors of innovation. While it may be impossible to fully measure innovation, and measuring innovation probably should not reside solely in the finance department, this is a way that finance and FP&A professionals can help colleagues maintain focus.

Seeing through the eyes of employees is the first step because employees affect the processes, interactions with customers and ultimately the bottom line of financials. Failing to effectively measure innovation through their eyes may hinder the measurement of innovation through the other perspectives.

A balanced approach

In 1992, Robert Kaplan and David Norton created a measurement system called The Balanced Scorecard. The Balanced Scorecard went beyond financial statements in measuring what businesses do in order to improve performance. Going beyond financial statements meant adding perspectives and points of view to evaluate performance. Evaluating performance through The Balanced Scorecard is measured from the perspective of finance (financial) and also the perspectives of customers (customer), processes (internal process) and employees (learning and growth). Our measurement of innovation is made by seeing through the eyes of others.

Seeing through the eyes of employees is the first step because employees affect the processes, interactions with customers and ultimately the bottom line of financials. Failing to effectively measure innovation through their eyes may hinder the measurement of innovation through the other perspectives.

Examples of employee measurement include ways to measure employee engagement and conversion to testable ideas:

- **Number of employee suggestions:**

This measurement creates insights into employee engagement. Without employee engagement, organizations will fail to move forward because employees will be stuck in the status quo, an existence that contradicts the effort to achieve long-term survival.

- **Number of employee improvements:**

Innovation is about improvement. Improvement can be in the form of new facility layouts, new methods (production, selling and administration) and new ways to interact with customers.

- **Number of employee prototypes:**

Prototypes are preliminary models of products but also can be preliminary types of service. Creation of prototypes are necessary to test the effectiveness of new ideas.

Different processes

Processes serve as a bridge between employees and customers and encompass the creation, promotion and support of what organizations sell. Examples of process measurements include:

- **Percentage of new products sold:**

This measures the relationship between the number of new products an organization sells and the total number of products sold. It measures the ability of organizations to generate interest in the ideas made by employees.

- **Percentage of products shipped by number of days:**

This measures the relationship between the ability of functions to fulfill customer requests. Fulfilling requests in a timely manner is a way for an organization to stand out from its competition.

Customers

If customers have positive perceptions through innovative employees and processes, customers are more likely to buy from organizations. Examples of measurements that help us see through the eyes of customers include:

- **Number of new customers:** New customers validate an organization's value proposition.
- **Number (percentage) of customers retained:** Existing customers validate an organization's effort to fulfill customer needs in part through innovation, and is the inverse of the churn rate.
- **Percentage of new products purchased:** This measurement serves as the ultimate connection between an organization's innovation and a customer's acceptance. This connection means employees and processes are in sync with the marketplace.

Finance

Simply put, being unable to meet stakeholder needs puts an organization on the path to insolvency. Examples of measurements that help finance innovate include:

- **R&D expense as a percentage of sales:** Research and development is a financial commitment to innovation. Expressing this commitment as a percentage of sales indicates a relationship between effort and reward.
- **New product sales as a percentage of total sales:** The emphasis on this percentage should be on the price of new products sold.
- **New fixed assets as a percentage of total fixed assets:** This percentage represents a commitment to acquiring physical capital like factories, warehouses and equipment. This commitment indicates an importance that an organization places on physical capital that can increase revenues, decrease expenses or both.
- **Intangible assets as a percentage of long-term assets:** Intangible assets like intellectual property represent investment in ideas—the ultimate form of innovation.

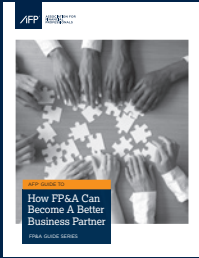
Figure 1: Sample innovation spreadsheet

	EMPLOYEE	PROCESS	CUSTOMER	FINANCE
Suggestions				
Improvements				
Prototypes				
New Products				
Products Shipped				
Information Provided				
Customers Acquired				
Customers Retained				
New Products Purchased				
R&D %				
New Product %				

- Net cash provided by operating activities as a percentage of total long-term assets: Net cash provided by operating activities appears on a statement of cash flows. This element indicates an ability of an organization to conduct meaningful relationships with its customers, employees and vendors. Measuring this relationship by comparing it to an organization's assets provides insights into an organization's ability to use its fixed assets and intangible assets for customer satisfaction, and is more informational than a simple return on assets calculation.

Innovation is about turning ideas into reality. Ideas are real when employees, processes, customers, and finance are united in their acceptance. How you can see this acceptance is by measuring innovation through the concept of The Balanced Scorecard.

Connect with Karl Kern on LinkedIn at www.linkedin.com/in/karlhkern/



Want to see how FP&A can work better with other lines of business? Check out the FP&A Guide, How FP&A Can Become a Better Business Partner, underwritten by Workiva.

www.AFPonline.org/publications

2019 AFP Compensation Report

See the salaries, benefits and skills that your treasury and finance peers possess.

How do you compare to them?



SEE HOW YOU COMPARE
dynamic.AFPonline.org/compensation

Hit the CEILING

Hedging with caps and floors

IRA KAWALLER

For those new to the discipline of financial risk management, as well as seasoned professionals, the most widely-pursued hedging objective is that of locking up prices in advance of some anticipated transaction. With this objective in mind, the most popular derivatives would be swap contracts, futures contracts and forwards. Generally, swaps tend to predominate for interest rate exposures, swaps and futures are favored for commodity risks, and forwards are the instruments of choice for currency exchange rate risk.

Caps and floors are merely a series of option contracts with a series of expiration dates, all bundled together.

Such hedges are typically motivated not only by the presence of risk but also by the sense that the exposure has reached an unacceptable level. These motivations notwithstanding, after the fact, either the feared price move occurs and the hedge generates the desired offset, or the price moves beneficially and the derivative contract generates a compensating loss.

In both of those alternative scenarios the derivative will reliably deliver on its objective of locking in a price/rate or series of prices/rates; but it's easy to understand that buyer's remorse could arise when derivatives generate losses. It's hard not to reflect on the fact that *not* hedging would have resulted in more favorable reported earnings. Unfortunately, if you want the protection in those instances when prices move adversely, you must be willing to forego the better performance when prices move beneficially. In the terminology of the economist, this is an *opportunity cost*.

Caps and floors

In fact, the terms of that tradeoff may be improved if, instead of using swaps, futures and forwards, the hedging entity buys caps or

floors or, more generically, option contracts. Caps, floors and options involve a direct expense, as these are initiated with an initial price paid. But while the opportunity costs for swaps, futures and forwards could essentially be unbounded, the costs for the caps, floors and options are known with certainty. Thus, if hedging with caps, floors or options, when the price of the hedged item moves beneficially, depending on the magnitude of the move, the user may be able to enjoy at least some portion of that benefit.

Caps and floors serve to do just what their names imply. Purchased caps put an upper bound on the price or interest rate that you're seeking to address, and purchased floors put a lower bound on those same prices/rates. Generally, caps and floors would be used in connection with a series of price-setting incidents, while for single-pricing incidents, purchases of individual options would likely substitute for caps or floors, preserving the same intended maximum or minimum worst-case constraint.

Caps and floors are merely a series of option contracts with a series of expiration dates, all bundled together. Given

this commonality, it should be understood that the properties discussed in this article pertaining to caps and floors apply equally to option contracts, and vice versa.

A brief background about options

A *call option* gives the buyer the right to buy some underlying good or commodity at a specified strike-price, assuring the capacity to buy at that strike price, or cheaper. Given this allowance, a purchase call assures the imposition of a worst-case, maximum purchase price in connection with the associated anticipated purchase. Alternatively, buying a *put option* gives the option holder the right to sell that commodity at a specified strike price, thereby establishing a worst-case minimum sales price. It should be clear, then, that choice of which option to buy would depend on which risk the firm identified as the desired hedged item—i.e., calls would serve to hedge anticipated purchases; puts would hedge anticipated sales.

Option prices divide into two components: *intrinsic value* and *time value*. The intrinsic value is the beneficial difference between the strike price and the spot price for the instrument underlying the option contract, from the perspective of the option buyer. For instance, if the spot price of widgets was \$55, the right to buy widgets at a price of \$50 (i.e., a 50-strike call option) would have an intrinsic value of \$5. Intrinsic values are never negative, so a 50-strike put option when spot widgets trade at \$55 would have an intrinsic value of zero. At any time prior to the option's expiration, you can expect the option price to be higher than the intrinsic value, and that excess price beyond the

Otherwise, without hedge accounting, these two earnings impacts would generally be reported in different accounting periods, thereby obscuring the intended risk management objective.

intrinsic value would be the time value. Put another way, the option's intrinsic value plus its time value equals the full option price; but when options expire, time value will erode to zero such that the ending value for an option at expiration will be equal to its then-prevailing intrinsic value.

Accounting considerations

A longstanding prerequisite for applying hedge accounting to derivatives transactions is that the derivative's gain or loss must be highly effective at offsetting the risk being hedged. Readers should appreciate that hedge accounting allows for the intended hedge objective to be transparently reflected in the company's financial statements, as under this accounting treatment, gains or losses on the derivative would be recognized in earnings in the same

accounting period as the earnings recognition for the exposure being hedged. Otherwise, without hedge accounting, these two earnings impacts would generally be reported in different accounting periods, thereby obscuring the intended risk management objective.

On the face of it, the prerequisite for hedge accounting that hedges must provide highly effective offsets would seem to be problematic for option hedges, given the nature of how time value works. Consider the case of an exposure being hedged with a purchased option, where the price of the hedged item exhibits no change during the hedging horizon. In this case, even though the price of the underlying asset will be unchanged throughout the hedge, the time value will erode as time passes, and ultimately, the derivative will post a loss. The offset that results in this example will be anything but highly effective; even though the purchase option will reliably satisfy the intended economic objective of limiting the effective price realized to some value at or better than the option's associated worst-case outcome.

The Financial Accounting Standards Board (FASB) appreciated this problem and allowed for two work-around solutions. The first was allowing time value elements of the derivative's result to be excluded from the assessment of hedge effectiveness, thereby requiring that the measure of offset would reflect only of the amount of the change of the option's intrinsic value. A second approach allows for the effectiveness assessment to be determined as a function of the option's terminal cash flow—i.e., the option payoff at maturity.

This second alternative approach effectively ignores time value without explicitly saying so. Still, the semantics turn out to be important. Under the original accounting guidance, explicitly asserting that time value would be excluded from the effectiveness assessment in the formal hedge documentation imposed the corollary requirement that these excluded amounts would have to be reported in earnings on a mark-to-market basis. On the other hand, applying this terminal cash flow method would allow these time value effects to be posted to OCI, initially, and then later reclassified to earnings coincidentally with the earnings effects of the item being hedged.

These two treatments have fostered diametrically opposing earnings recognition of time value effects for caps and floors. When time values have been explicitly excluded in the formal hedge documentation, the earnings recognition of these time value effects have tended to be larger in the earlier portion of the hedge, dampening down over time. On the other hand, when the terminal value approach has been used, the reverse outcome has occurred. Time value effects recognized in earnings have tended to be smaller for the nearby pricing exposures and larger for the more distant ones.

The following table illustrates these generalizations. It reflects an assumed at-the-money cap composed of four options or, in this case, *caplets*. The presumption is that none of the caplets have any intrinsic value when originally transacted, such that the entire cap price (\$61) is time value. The table further assumes a "steady state" environment, whereby the

Figure 1: Hedge horizons

Hedge Horizon	Starting Price	After 1st Expiry	After 2nd Expiry	After 3rd Expiry	After 4th Expiry
Q1	10				
Q2	14	10			
Q3	17	14	10		
Q4	20	17	14	10	
Total	61	41	24	10	0
Price Change		-20	-17	-14	-10

implied volatilities of the options, as well as the price of the underlying good, remain constant throughout the hedge horizon. Under these assumptions, the prices of the caplets will decline period-by-period in a manner consistent with all the caplet prices that prevailed at the start.

Under the approach where time value is excluded from hedge effectiveness assessments, the earnings effect is the period-by-period price change for the instrument as a whole, shown on the bottom row of the table. On the other hand, under the terminal value approach, the earnings recognition arises through the reclassification process, caplet by caplet. In other words, the time value allocation for the first caplet (\$10) hits earnings the first period, the second caplet's effect (\$14) is realized in the second period, etc. Thus, the earnings recognition is just the reverse, starting low and gradually increasing over time.

What's new?

Although these two methods are still acceptable, as of November of 2017, FASB amended the hedge accounting guidance with the release of ASU 2017-12, which allowed for a third way. Under

the amended guidance reporting entities may still exclude time value from the assessment of hedge effectiveness, but they've relaxed the procedure now allowing for the time value effects to be recognized in earnings on the basis of some rational allocation regime—the most natural being a ratable allocation of these amounts throughout the hedge horizon. This rule change unambiguously smooths out the earnings effects that were otherwise inherent in the accounting treatment prior to the promulgation of the amended guidance. It's a clear improvement in the accounting rules.

Undoubtedly, those firms that have employed one of the pre-amendment accounting methods may have a reluctance to change procedures, but they shouldn't necessarily feel tied into their current method for handling option time values. For some transitional period, existing hedges could be processed as currently documented, using the pre-amended guidance, and new hedges could be processed following the amended guidance. In time, the old hedges will expire and a single—better—methodology would be consistently applied.

Technical issues

The amended guidance states that the allocation of time value should be made by some rational basis *over the life of the hedging instrument*. Critically, this language bounds the length of the period over to a span that ends with the expiration date of the derivative—not when the earnings from the hedged item hit the income statement.

Finally, prospective adopters of this amended treatment should understand how the allocation of time value amounts would be affected if the hedge were de-designated or if the derivative were to be liquidated prior to its expiration date. In such cases, following the termination of the hedge relationship, care is required to assure that any subsequent earnings recognition appropriately reflects the time value allocations that had been made to earnings, thus far.

Ira Kawaller is the Principal of Derivatives Litigation Services, LLC, a company that offers consulting and expert witness services relating to derivative instruments..

STEFANIE PERRELLA AND BEAU SHEIL

Uncharted Waters

Managing the tax risks of cash pools

Cash pooling is a solution many treasury professionals use as a means for optimizing cash management. It is often the responsibility of a treasury department rather than tax specialists to coordinate with a third-party bank to set up a cash pool, and as a result, certain embedded tax risks and planning opportunities can be overlooked.

By their nature, cash pools (both notional and physical) result in intercompany account balances. While the interest rates paid or received by cash pool participants on these intercompany balances may not impact what is paid to the third-party bank or directly impact the multinational's overall pre-tax cost of funds, there are tax consequences from these rates. Tax authorities will be concerned that non-arm's-length interest rates could potentially reduce the taxes owed in their jurisdiction. Given this, companies need to determine arm's-length rates that conform with the tax rules in the jurisdictions of all parties involved to minimize tax risk (i.e., potential income adjustments, penalties, double taxation).

While the relevant tax regulations vary by country, the Organization for Economic Cooperation and Development publishes global standards for all types of intercompany transactions. Many jurisdictions follow the spirit of this guidance, and some simply adopt it as law. Recently, the OECD published a discussion draft,¹ which included proposed frameworks for how companies and tax authorities should analyze cash pools. The United Nations also recently released a new proposed chapter on intra-group financial transactions.² The attention of these bodies on this topic is indicative of the growing tax scrutiny on intercompany financing structures.³

¹The discussion draft is available online:

<https://www.oecd.org/tax/transfer-pricing/BEPS-actions-8-10-transfer-pricing-financial-transactions-discussion-draft-2018.pdf>.

²The proposed chapter is available online:

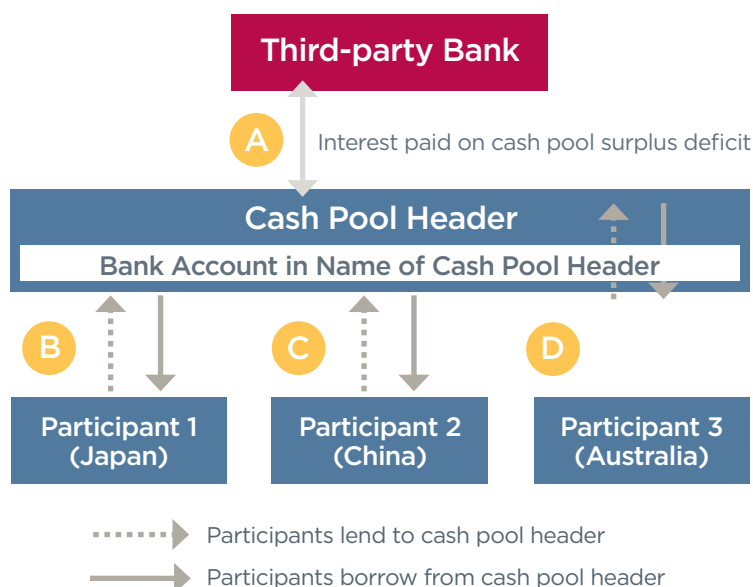
https://www.un.org/esa/ffd/wp-content/uploads/2019/04/18STM_CRP1_Update-UN-Practical-Manual-on-Transfer-Pricing.pdf.

³At the time of this publication neither the OECD draft of the UN draft had been finalized.

Benchmarking intercompany interest rates

Intercompany balances between cash pool participants can be viewed as separate intercompany loans, all of which feed into the company's cash pool arrangement with the bank, as shown below.

Figure 1. Interest Rates within a Cash Pool



While third-party banks typically offer systems that manage cash balances and corresponding fees across the cash pool (i.e., A, B, C, and D), when it comes to setting fees, the banking partner is usually only focused on setting its borrowing/lending rates and administrative fees (i.e., A). It is therefore left to the company to set and provide the appropriate intercompany rates (i.e., B, C, and D).

Under the arm's-length standard, the intercompany interest rates for balances with the cash pool should be no higher or lower than the interest rate participants would potentially pay/receive for short-term borrowings/deposits in the open market under similar circumstances. Setting intercompany interest rates in the context of a cash pool is facts and circumstances dependent, but a common approach is to base the interest rates on the credit risk profile of each respective cash pool participant.

Similarly, the cash pool header's credit risk profile is often used in setting the appropriate interest rate it owes to cash pool participants for their sweeps into the cash pool. Short-term yield data can then provide a reliable benchmark for market interest rates across the spectrum of potential credit ratings. Many cash pools operate using spreads over floating rates so the yield curve information (often provided as fixed rates) may need to be converted to the proper underlying base rates using swaps. For multicurrency cash pools, the swap can simultaneously convert the fixed rate to a floating rate across the functional currencies.

Barring any material changes to the OECD's discussion draft and the UN's proposed chapter upon their finalization or the introduction of other regulatory guidance, we expect this general approach to continue to be the best practice for setting intercompany interest rates for cash pools.

Allocating the pooling benefit

Separate from and in addition to calculating the interest rates, the bank will also calculate the "pooling benefit." In general, the pooling benefit is the savings achieved by the cash pool from reducing its external cost of funds. This savings is typically calculated as the difference between the net interest theoretically earned if each entity were to make deposits into their respective separately managed account (i.e., Scenario A below), versus the interest earned when cash balances across entities are pooled and deposited (notionally or physically) by the cash pool header (i.e., Scenario B below). In this example, the pooling benefit is the \$20,000 difference between the \$60,000 of interest earned in Scenario B and the \$40,000 of interest earned in Scenario A. Pooling benefits result from the difference in the borrowing and lending rate offered by the bank (in this case, the 3 percent borrowing rate versus the 2 percent lending rate). In practice, there may be additional drivers that impact the magnitude of the pooling benefit.

Pooling Benefit Example:**Scenario A - Separately Managed Accounts**

	Deposit	Base Rate	Spread	All in Rate	Interest Received
Entity 1	\$5,000,000	2.5%	-0.5%	2.0%	\$100,000
Entity 2	\$(2,000,000)	2.4%	0.5%	3.0%	\$(60,000)
					\$40,000

Scenario B - Cash Pooling

	Deposit	Base Rate	Spread	All in Rate	Interest Received
Entity 1	\$5,000,000				
Entity 2	\$(2,000,000)				
Entity 3 (Header)	\$3,000,000	2.5%	-0.5%	2.0%	\$60,000

The pooling benefit can either be allocated to the cash pool header or dispersed among the cash pool participants. If the cash pool header operates as an in-house bank—bearing credit risk, liquidity risk, and/or currency risk (and deciding when and how to hedge risk)—it arguably should earn the upside from the cash pool and thus receive all or most of the pooling benefit. If on the other hand the cash pool header is more of an administrative agent, the pooling benefit may be more appropriately allocated across the cash pool's depositor entities or all participants. The administrative fees charged by the bank should likewise be allocated, such that the costs of running the pool generally follow the pooling benefit.

Shortcuts to avoid

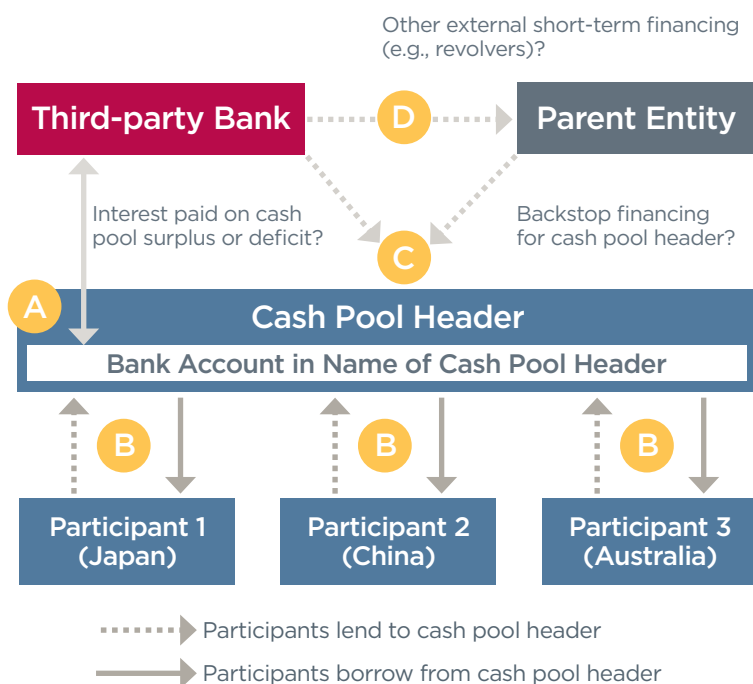
When setting up cash pools, many companies use a single borrowing interest rate for all cash pool participants, along with a separate rate for interest owed by the cash pool header for deposits. This can cause problems if the participants in fact have varying credit quality when viewed individually. Further, this single borrowing rate across participants is usually set lower than prevailing market rates to provide low-cost working capital to the participants. While understandable from a business perspective, using an artificially low rate creates tax risk for the cash pool header

because its interest income, which is usually taxable, will be too low. Companies may try to correct for this by using an even lower rate for the cash pool header's interest owed on sweeps into the cash pool. However, this correction only shifts the burden of below market interest rate returns to the cash pool's depositor entities, creating tax risk in those jurisdictions.

We also see many companies leverage the rate set by the bank to establish intercompany rates. Depending on the structure of the cash pool, the rate charged by the bank may be akin to an overdraft line, provided as a safeguard in the event of a cash shortfall within the pool. In these circumstances, the interest rate is typically quite high because it is intended to serve as an extraordinary source of funds. Most companies aim to limit the use of this safety net for this reason and instead have a separate line of credit available, either with an external bank or a related party such as the parent company, in case of a longer-term cash shortfall. External arrangements for short-term cash needs (e.g., lines of credit) that are separate from the cash pool may be closer in spirit to an appropriate intercompany rate for credit balances in the cash pool, but even these should be carefully analyzed for comparability to cash pool arrangements, with any suitable adjustments made.

Reasonableness checks

Once intercompany cash pool policies (e.g., appropriate intercompany interest rates and allocation of pooling benefit / administrative costs), are determined, one should perform sanity checks, potentially in collaboration with tax and other stakeholders. Below are a few checks we like to perform:



- A.** Does the cash pool header earn long-term persistent losses, or does it consistently earn outsized returns that do not align with its actual functions, assets, and risks? If so there could be problems with the relative intercompany interest rates being charged/earned.
- B.** How consistently are cash pool participants borrowing from/lending to the pool? If holding periods extend into longer-term debts, the borrowing may be re-characterized by tax authorities as a capital contribution (leading to the denial of deductions of interest expense) or a term loan (leading to higher interest rates on the balance). Certain countries have specific statutory time limits to guard against this.

- C.** If there is a backstop of additional financing to the cash pool header, does this insulate the cash pooler header from real risk of cash pool participant default? A close examination may uncover, for example, that the parent entity is bearing the risk of default – if so, separate intercompany compensation to the parent may be needed. This may also impact how the pooling benefit is allocated.
- D.** Do the cash pool's intercompany interest rates make sense in the context of the short-term rates that the company receives from external lenders? Companies should take a step back and review the intercompany cash pool interest rates within the broader credit standing of the consolidated company (e.g., how do rates charged in the cash pool compare to the company's external cost of funds?).
- E.** How has the arrangement been documented from a tax perspective? There are standards under both the OECD Guidelines and local tax regulations for how intercompany transactions, including cash pool arrangements, should be documented (usually annually).

A tax authority's examination will usually begin with their consideration of these high-level questions, so it is prudent that companies proactively think through their responses. More broadly, companies should review their existing cash pool policies against the best practices outlined here and make changes where prudent. In developing tax strategies associated with new cash pools (such as setting up cash pool headers in jurisdictions with favorable tax environments and setting rates for all participants and estimating benefits), companies should take the considerations discussed here into account.

Stefanie Perrella is Managing Director, Transfer Pricing, in Duff & Phelps' New York Transfer Pricing Practice. Beau Sheil is Director, Transfer Pricing, in Duff & Phelps' New York Transfer Pricing Practice.

STAFF WRITERS

API FAQS

An API AMA with NACHA's
George Throckmorton

Treasury teams increasingly are turning to open banking and application programming interfaces, or APIs, to enhance their payments technology (see main story on page 8). But which API, and how do you create a successful strategy to incorporate APIs into your current payments array?

To help, AFP asked George Throckmorton to lead an online chat session. In his AMA, the Managing Director of Advanced Payments Solutions for NACHA answered several questions about APIs. Here is a condensed version of the chat:

Treasury Professional: My first question with regards to API is can we have one API through SWIFT to collect previous day and current day bank statements? This would reduce a ton of work for all. Also, it would be great if these statements could be automatically classified into various categories on cash flow statement. These two steps will transform cash management drastically.

George Throckmorton: SWIFT continues to do a great job with modernization of the SWIFT network for its users and APIs, and the recently launched EPI solution go a long way towards standardization. Afinis Interoperability Standards works closely with SWIFT on API standardization. Afinis members are currently developing a single API standard for corporate end users that would support intraday and current day reporting. Feedback on functionality such as categorization are welcome and can be provided by visiting afinis.org. The API standard should be ready for testing later this year.

Treasury Professional: One more question. SWIFT truncates the bank reference information after certain number of characters. Is that going to be resolved in the API coming in soon?

George Throckmorton: While I am not directly involved in the SWIFT GPI project, I do believe the development is based on ISO 20022 data definitions and ISO does support both structured and unstructured data which should provide an opportunity to solve for truncation issues.

Treasury Professional: I'm more interested on payment approval process. I'm looking for a platform that can help me concentrate the payments and allow me to see if they've been approved, entered and released.

George Throckmorton: Afinis Interoperability Standards is currently developing API standards that allow corporates to track the status of a payment instruction anywhere in the process. I am aware of several financial institutions that provide or are planning to provide transaction status capabilities. If tracking is desired within the ERP system before instructions are sent it will require additional functionality from the providers. I wouldn't say that would necessarily result in an API implementation, but we are working closely with providers on end to end tracking for payments.

Treasury Professional: I'd like to better understand how to project expenses related to greater use of this payment technology over the next three years.

George Throckmorton: In theory, once the API Gateway is developed the creation and implementation of API's should be low cost. Afinis develops API product standards and using of a standard can greatly reduce the cost for all that adopt. I have also seen that APIs are not created equally depending on the use case, the complexity of the API including such things as security, permissions, and payload the cost can vary. Afinis established a formal governance and lifecycle management process. I think this is great place to start when forecasting cost because it provides the details of what work will need to be done.

Treasury Professional: How can corporates prepare for the use of API in the mean time? We started building data models to ingest data from APIs for a particular bank. If we can get some preview into what API standards will look like particularly for current day transactions from banks that would be helpful.

George Throckmorton: I think the scope of API standardization will be very broad and include any function from payment initiation and transaction tracking to vendor on-boarding and compliance verification. Data modeling is important, and I think building a base line knowledge of ISO 20022 can also benefit businesses. We have found that ISO really becomes the key to standardization vs traditional data modeling.

Finally, to have good understanding on what API Standard backlog items I would suggest that businesses consider participating in Afinis Interoperability Standards to not only receive access to standards earlier but to also have an opportunity to influence the development. You can learn more at afinis.org.

Read the full version at Collaborate.AFPonline.org.

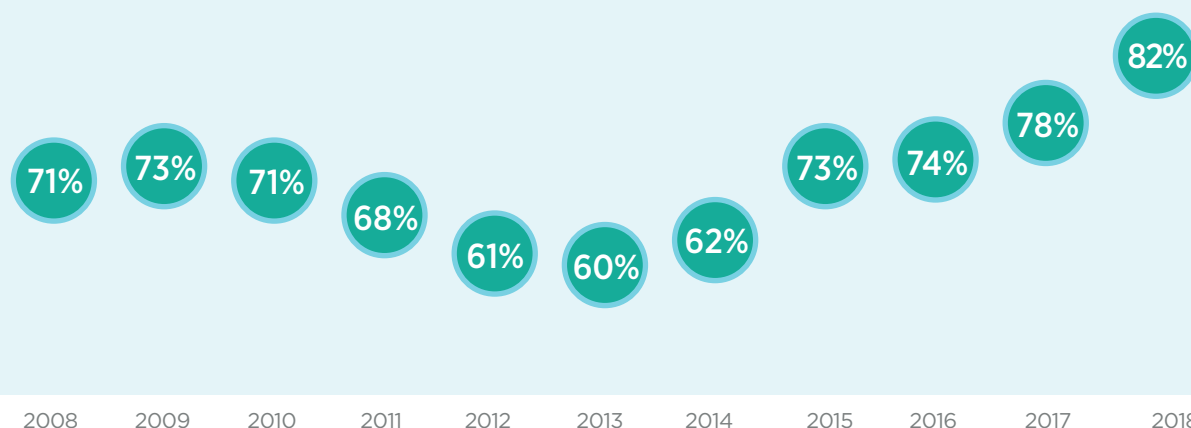


Results from the 2019 AFP Payments Fraud & Control Survey

Payments fraud continues to soar, as a record 82 percent of organizations reported incidents in 2018, according to the 2019 AFP Payments Fraud & Control Survey, underwritten by J.P. Morgan.

Large organizations were particularly vulnerable to payments fraud, as businesses with revenue greater than \$1 billion reported a jump of seven percentage points year-over-year to 87 percent. Organizations with revenue less than \$1 billion experienced fewer fraud attempts in 2018, down four percentage points to 69 percent from 73 percent.

Percent of Organizations that Experienced Attempted and/or Actual Payments Fraud, 2008-2018



Source: 2019 AFP Payments Fraud & Control Survey

“Payments fraud is a persistent problem that is only getting worse despite repeated warnings and educational outreach,” said AFP President and CEO Jim Kaitz. “Treasury and finance professionals need to learn the latest scams and educate themselves—and perhaps more importantly—their work colleagues on how to prevent them.”

Business Email Compromise (BEC) scams also set a record. Eighty percent of companies reported BEC fraud last year, up from 77 percent in 2017. More than half (54 percent) of organizations reported financial losses as a result of BEC, the first time since AFP began tracking this data that this number climbed above the 50-percent mark. More than three-fourths of companies are responding by adopting stronger internal controls that prohibit payment initiation based on emails or other, less secure messaging systems.

“It is equally important for businesses to mitigate against non-financial implications of payments fraud,” said Jessica Lupovici, Managing Director, J.P. Morgan. “Businesses stand to suffer reputational risk, which can be severe, expensive and require significant clean-up efforts.”

Check fraud decreased

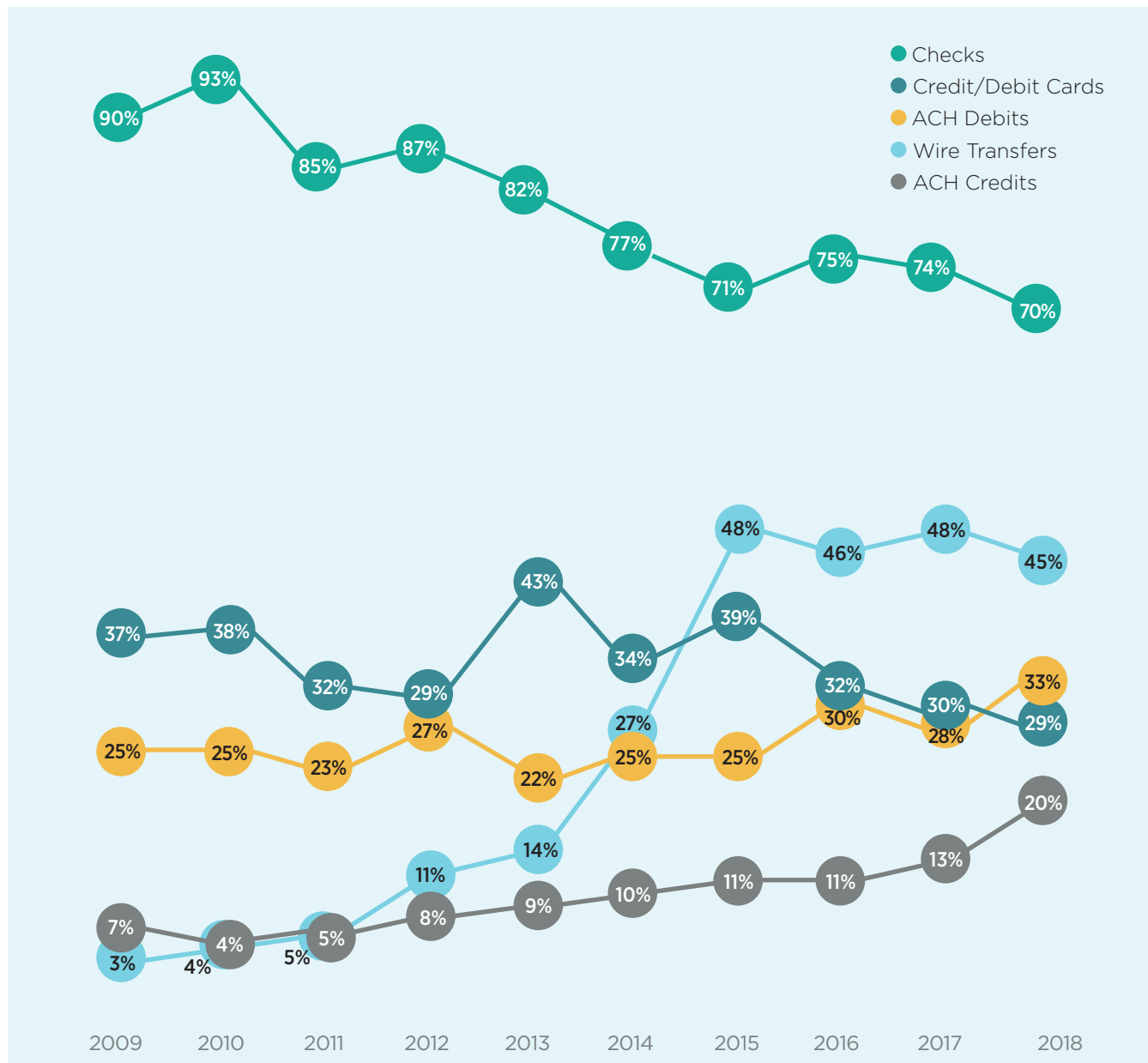
Fully 70 percent of organizations report being exposed to check fraud, down four percentage points from 2017. In fact, payments fraud via

checks has been on the decline since 2010. The share of organizations that were victims of fraud attacks via wire transfers also decreased slightly, from 48 percent in 2017 to 45 percent last year.

Wire fraud activity continues to be high, especially considering the share of organizations experiencing such fraud was only in the single digits until 2012. There has since been a steady increase in the percentage of organizations reporting wire fraud. This year’s survey results reveal a noticeable increase in fraud activity via both ACH credits and ACH debits. Thirty-three percent of financial professionals report their organizations’ payments via ACH debits were subject to fraud attempts/attacks in 2018; that is an increase of five percentage points from 2017. Fraud activity via ACH credits increased seven percentage points from 13 percent in 2017 to 20 percent in 2018.

This new development indicates that fraudsters are now trying to use ACH transactions as vehicles for their scams as they move away from checks and wires. As ACH transactions are typically considered safer and more difficult to compromise, the increase in ACH fraud suggests that such fraud is of a more sophisticated kind. In their attempts to alter the way they conduct their scams and to avoid raising any red flags, fraudsters may think that shifting to an unexpected payment method can do just

Payment Methods that Were Targets of Attempted and/or Actual Payments Fraud in 2018



Source: 2019 AFP Payments Fraud & Control Survey

Historical Trend of Fraud for Payment Methods

- Checks are the payment method most subject to fraud, but instances being reported are on the decline
- Wire fraud continues to be at elevated levels, Business Email Compromise (BEC) a likely cause of attacks
- Fraud activity with cards on the decline
- ACH debit fraud has increased to record levels and continues its upward trend
- A steady increase in ACH credit fraud since 2012

that—help them avoid detection. In these cases it is usually not the payment method itself that is compromised but the processes leading up to payment initiation. It is also possible that in order to conduct scams via ACH transactions, fraudsters may either compromise internal systems through phishing attacks or recruit assistance from inside their target organizations to help facilitate ACH transaction initiation.

The financial impact

What is the real financial cost to payments fraud? According to the 2019 survey, actual direct financial losses were less than potential losses. Fifty-seven percent of financial professionals report that their organizations did not incur a direct financial loss as a result of fraud activity, while 19 percent report a financial loss of less than \$25,000.

Costs to manage/defend and/or clean up from fraud attacks were relatively low for most organizations that experienced such attacks. Forty-two percent of companies did not incur any expenses due to a fraud attempt and 39 percent spent less than \$25,000 to defend against or clean up the fraud.

Of those organizations that were victims of fraud attacks in 2018, 42 percent detected the fraudulent activity in less than one week while 1 percent took one to two years before

uncovering the scam. The majority of payments fraud attempts/attacks (64 percent) continues to originate from an external source or individual, such as forged checks or stolen cards).

Fraud prevention techniques

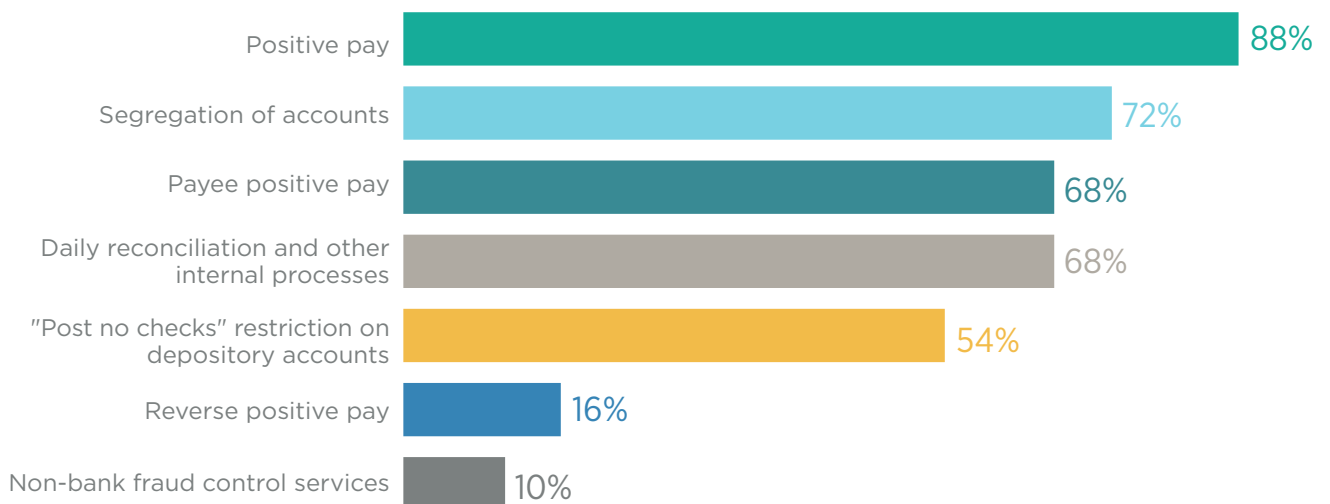
Positive pay continues to be the method most often used by organizations to guard against check fraud. This approach is used by 88 percent of organizations—down from 90 percent in 2017. Protective measures such as positive pay are not generally included in the payment offering from the financial institution but an added service that charges an extra fee. This can explain the fluctuating use of positive pay from previous years. A slightly larger share of organizations resort to segregation of accounts (72 percent) than the share that reported the same in last year's survey (68 percent).

Other prevalent methods being used to guard against check fraud include daily reconciliations and other internal processes (68 percent of respondents), payee positive pay (68 percent), and "Post no checks" restriction on depository accounts (54 percent).

More than 600 treasury and finance professionals responded to the survey. The full survey is available at www.AFPonline.org/paymentsfraud.

Fraud Control Procedures and Services Used to Protect Against Check Fraud

(Percent of Organizations that Experienced At Least One Attempt of Check Fraud)



Source: 2019 AFP Payments Fraud & Control Survey

THIS IS AFP 2019

SEPARATE THE HYPE FROM THE REALITY

Discover what you should be focusing on in 2019 and beyond.



ISO 20022
**ELECTRONIC
ACCOUNTS
PAYABLE**



**ROBOTIC
PROCESS
AUTOMATION
BLOCKCHAIN**



LIBOR
**ARTIFICIAL
INTELLIGENCE**



REAL TALK— TREASURY AND FINANCE STYLE

20+ hours of dedicated networking
to help you connect with your
treasury and finance community.



AFP 2019

BOSTON | OCTOBER 20-23

BIG INSIGHTS FROM THOUGHT-PROVOKING SPEAKERS

Sometimes you need a little inspiration. AFP 2019 speakers can help with that.



Robin Roberts

Co-Anchor, *Good Morning America* and Author
Everybody's Got Something



Rosie Rios

43rd Treasurer of the
United States
**The Intersection of
How Markets, Policy and
Strategy are Impacting
Your Organization**



Anne-Marie Slaughter

CEO, *New America*
**The Future of Work:
What You Need to Know**

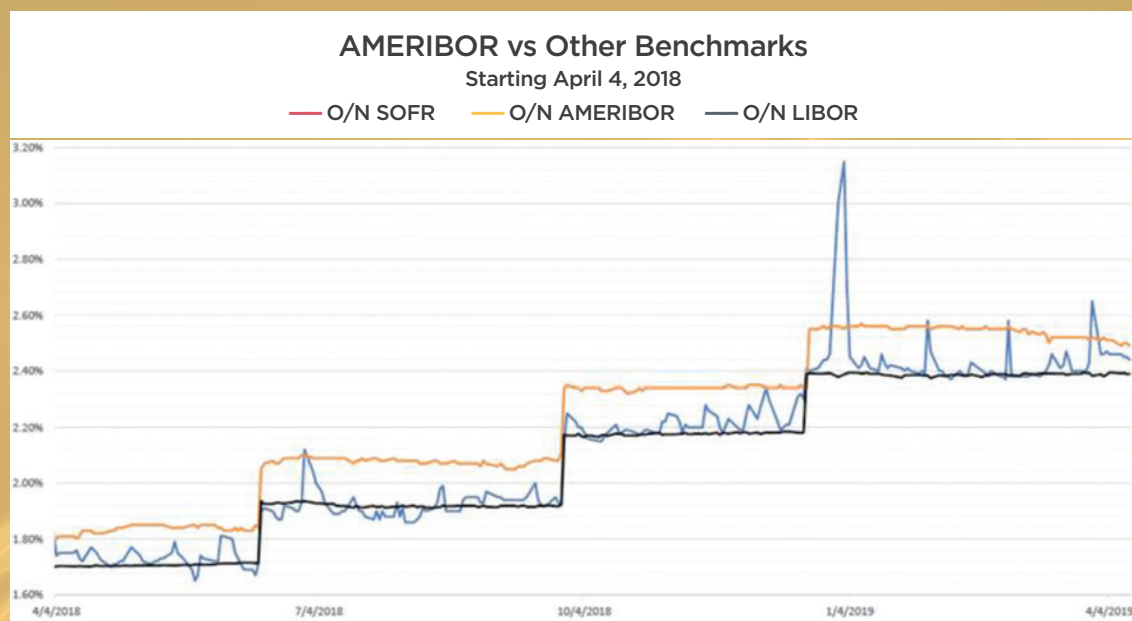
AFP members make AFP 2019 what it is.
The premier event in treasury and finance.

SEE WHAT WE HAVE PLANNED
[DYNAMIC.AFPONLINE.ORG/AF2019](https://dynamic.afponline.org/afp2019)

Gaining SPEED

More corporates are using
Ameribor, a Libor replacement

JOHN HINTZE



Source: Bloomberg.

Corporate finance executives may soon bankers pricing loan products via a new benchmark—and it may not be the much-ballyhooed one they are developing. The lesser known Ameribor may turn out to be more popular than the bank-created SOFR.

Ameribor users cite its cheaper costs relative to SOFR, the Secured Overnight Funding Rate created specifically to replace the London Interbank Offered Rate, the benchmark interest rate for upwards of \$20 trillion in floating-rate financial products.

The Alternative Reference Rate Committee (ARRC) was tasked by the Federal Reserve Bank of New York with developing SOFR, and the nascent benchmark has received plenty of attention. Less attention has been paid to the rapid growth of the American Financial Exchange (AFX) and its floating-rate benchmark, even though it has already been used to price corporate loans.

Partly that is because the IOSCO-compliant Ameribor benchmark is aimed at regional and community banks, and the loans they've made so far have been in the millions of dollars rather than billions. For example, Alabama's ServisFirst Bank recently inked an \$8 million commercial real estate loan over Ameribor that matures in five years and amortizes in 15 year. President and CEO Tom Broughton said the bank has also used the benchmark to price lines of credit over \$10 million.

Numerous large financial institutions, including Fannie Mae, Wells Fargo and MetLife, have issued notes priced over SOFR. Those short-maturity deals have been for several hundred million dollars and some for more than a billion.

One of the few corporate borrowers to issue debt priced over SOFR, Toyota Motor Credit Corp., the financing arm of Toyota, issued \$500 million in three-month commercial paper last October. Nicholas Ro, the company's treasury national manager of sales and trading, described the offering as a test to get feedback from its investors regarding how they "feel about the alternative reference-rate transition, and to determine what role TMCC can play."

So far, no deals comparable in size to TMCC's have been priced over Ameribor.

One corporate that is familiarizing itself with AFX is Deere & Co. The giant farm equipment manufacturer recently joined AFX at the holding-company level, suggesting its treasury may use the exchange as a vehicle to invest cash. The company did not respond to requests for comment.

AFX currently has 116 bank members and 25 nonbanks, which except for Deere & Co. are comprised of insurance companies, broker-dealers and asset managers. An additional 556 banks have access to the exchange through correspondent bank relationships.

Each of the member banks so far has less than \$150 billion in assets. Regional and community banks appear to be attracted to Ameribor in part because SOFR presents risks that the largest banking institutions can more easily hedge. Richard Sandor, who launched AFX in 2015, noted that SOFR is generated from thousands of overnight repurchase-agreement (repo) transactions, a global market impacted by factors outside the United States such as

credit issues of foreign banks lending in U.S. dollars. Ameribor, on the other hand, is generated from funding transactions between U.S. institutions and is designed to more accurately reflect their cost of funds.

"Ameribor is not a big bank tool; it's meant for the regionals," said Sandor, who developed the first interest-rate futures contract in the 1970s and later was instrumental in setting up climate-related exchanges in the U.S. and elsewhere.

Another significant benefit of Ameribor is that it is generated from unsecured transactions with credit risk, whereas repo transactions behind SOFR are secured. That's potentially a big problem for banks during times of financial stress, since credit risk will prompt investors to flock to secured investments such as repos, tightening SOFR, while their funding costs will likely increase.

"In September 2008, Libor increased by more than 500 basis points, and at the same time the repo rate dropped to near zero," Broughton said, adding that had SOFR been in effect in 2008 banks' loans would have been significantly underpriced while their cost of funds would have skyrocketed.

Broughton also pointed to SOFR volatility toward year-end 2018, when there was a shortage of treasury bonds. A Wall Street Journal article noted that the repo rate settled Dec. 31 at an all-time high of 5.149 percent, after hovering around 2 percent since the previous April. On the same day SOFR moved to 3 percent from 2.46 percent the day before. The article added that if "SOFR proves unusually volatile or hard to predict, it would diminish the benchmark's appeal to companies that are considering tying their borrowing costs to it."

Similar to SOFR, Ameribor is an overnight rate, so borrowers will only know their final rate at the end of the loan period. Most corporate borrowers, however, are used to Libor's term structure, which enables them to know precisely what their payment is at the end of each term—three-month LIBOR is common among commercial loans.

The major derivative exchanges such as the CME have nurtured markets in one-month and three-month SOFR futures since last summer, creating building blocks on which to build term versions of the benchmark. Volume in those transactions has leaped this year, a positive sign for term SOFR as well as Ameribor, which plans to piggyback off the success of SOFR futures.

Sandor said the plan is to launch Ameribor futures in the third quarter of 2019 that essentially replicate the CME's SOFR futures. "We're at the beginning of working on a term structure," he said. "We think the SOFR architecture is very good."

How LOW



Can You GO

Decentralized budgeting meets headcount planning

JOANNE E. BRUNN, PH.D.

Even for organizations that have embraced a decentralized or collaborative approach to financial planning, the finance and HR teams often manage headcount planning in a fully centralized or hybrid approach. What's behind this disconnect and which method is best for your organization?

Decentralized budgeting philosophies go by many names, including collaborative or distributed, and the specific execution may vary among organizations. For this discussion, we are using the terms “decentralized” or “collaborative” to describe a planning and budgeting process where employees, including budget managers and department heads, are empowered to make and be held accountable for key input and decisions.

It goes without saying that engaging multiple participants is more complex and challenging than performing a simple percentage increase in an annual exercise controlled completely by finance. But for organizations willing to invest the time and energy, decentralized budgeting returns some impressive benefits:

- **More accurate budget numbers:** Both in the accuracy of actual spend as well as estimates of which costs and when those costs will fluctuate throughout the year (monthly spreading)
- **Increases in accuracy translate to cost savings:** This enables organizations to dramatically reduce the size of contingency or slush/overage accounts
- **Employee engagement rises as well:** Employees are more motivated and have greater job satisfaction and performance.

“[A decentralized approach] has been a very positive change for us,” said Karen D’Anjolell, Enterprise Reporting Administrator, NJM Insurance Group. “We’ve experienced a more collaborative effort from all of our departments. Staff are definitely more engaged. They like being able to get right down into the details. While the finance team gets access to timely information that is way more accurate. For example, in 2018 actual results were only off budgeted amounts by 1.4 percent.”

Headcount planning

In most organizations, staffing costs represent the single, largest expense of overall budgeting—commonly, 50 percent to 80 percent. It’s also often the area of greatest variability and complexity. So, no surprise that the benefits of decentralized budgeting are even greater when the approach is extended to include headcount planning. Yet, even in organizations that embrace a decentralized approach to budgeting there’s a good chance that personnel budgeting and headcount planning are held outside of the budgeting process.

What’s so different about headcount planning that makes it such a common exception to the decentralized rule? The answers seem to fall into three key areas of concern: confidentiality, challenges of execution, and culture.

Confidentiality is perhaps the most obvious and often reported concern of HR and finance teams. No one wants to run the risk of salary and benefit information falling into the wrong hands. This is a particularly challenging issue for organizations using Excel templates for budgeting. Distributing multiple iterations of spreadsheets out across the organization to all of the managers involved in the budgeting process can be a confidentiality nightmare. Lacking the ability to effectively limit who sees what data with a secure user login makes many senior managers wary of a decentralized approach.

Ensuring proper controls are in place to avoid the disclosure of salary and benefit information outside of appropriate staff is mandatory for a fully decentralized implementation of headcount planning. For organizations without these controls, a hybrid approach may be a better fit, gathering non-confidential information from department heads on:

- Numbers of anticipated new hires, replacements, retirements, terminations and various types of leave of absence or anticipated temporary staffing
- Costs associated with transitions including severance, recruiting, moving, signing bonuses, training costs, etc.
- Insight into seasonality or market-related fluctuations—e.g. anticipated overtime of hourly workers staffing weekend events or a new product-launch.

With this approach, HR and finance retain responsibility for detailed verification of salary rates and related benefits, bonuses and headcounts but gain critical knowledge of anticipated staffing-related variances and cost-drivers.

Collaborative budgeting is a double-edged sword that can produce great benefits as well as unique execution challenges. You are pushing the budget process down to front-line managers because they are the domain experts in their respective departments or areas. But even though they are experts in their area they usually aren’t savvy Excel gurus.

“We have 104 budget managers across six colleges,” said Courtney Bonnell, Director of Budgeting and Planning, A.T. Still University. “Our staff have talents and skills in lots of areas but not all of them have financial skills. We needed to ensure our approach to collaborative budgeting guided managers with clear instructions from one step to the next to provide us with the information we need. With this approach we’ve been able to gain transparency and consistency from year-to-year and department-to-department. We’re finally at the point where we can actually identify every dollar and what it’s for.”

Determining how low in an organization to push the budgeting or headcount planning process requires a realistic time/benefit analysis. Evaluate the capabilities and availability of your current staff as well as the application you are currently using for budgeting and planning with questions such as:

- Can you export data or run reports with detailed salary and benefits information?
- Can you quickly remove costs associated with an unexpected termination, or flexibly shift hire dates and reflect the impact across the budget?
- Can you easily set compensation cost drivers for benefits and salary increases?

If you answered “no” to any of these questions, then a technology audit may be in order and a hybrid or fully centralized approach may be a better fit for headcount budgeting.

Organizational culture and how it influences a decision to centralize or decentralize budgeting overall—and headcount planning specifically—involves a complex mix of issues and considerations:

- **Flexibility or control:** Which is more valued or critical to achieving your objectives?
- **How important is transparency and communication** to your culture? And, to employee morale or performance?
- **And perhaps most importantly:** Does the detailed expertise and hands-on knowledge of your department heads influence the accuracy of your final budget numbers?

“Organizations often overlook the impact of poor communication on employee engagement and culture,” explains Leslie Grossman, author on collaborative leadership and Faculty Director, Women’s Leadership Program, at The George Washington University Center for Excellence in Public Leadership. “As organizations expand, communication becomes less organic and more structured. Employees have limited input and insight into the ‘why’ behind strategic decisions. Historical knowledge is lost with employee transitions. Each of these small issues can add up to a loss of trust in management and resentment between departments.”

Collaborative budgeting can actually be leveraged to increase transparency, improve two-way communication, share strategic goals and improve ownership. Just by asking for input you are empowering and validating your staff. Research shows that even if you don’t implement all of an employee’s suggestions or budget requests, they still have an increased engagement and satisfaction level.

Here’s how finance teams can facilitate a collaborative approach to headcount planning while still feeling confident that the right controls are in place:

1. **Ensure confidentiality.** Maintaining privacy of headcount data is top priority in a decentralized budgeting model. Proper security measures should be put in place allowing access to view or change employee data based on role or title and department.
2. **Audit data for accuracy.** Just one or two inaccuracies in the data can result in thousands of dollars of hidden errors in your budget. Include a detailed review by each department head of current employee data, including ID and position number, title, salary grade, employee class, etc. With proper security controls in place, this should also include a review of salary data.

3. **Assess fluctuations and impact throughout the year.** Hiring, firing or planned leaves have an obvious financial impact. But the key to accuracy in your final numbers lies in being able to anticipate the impact (both cost and timing) on the budget and to make adjustments if necessary. While it’s not realistic to know every staff change in advance, department heads have the best “intel.” Leveraging their insights can get you significantly closer to budgeted vs. actual spend at the end of the year.
4. **Be transparent.** Budget managers should be made aware of their portion of the cost for any employees allocated across departments. It’s true that they may not like the situation or have any control over these costs. However, research shows transparency into the total budget by department increases ownership, engagement and accuracy.
5. **Simplify benefit calculations and salary increases.** A built-in calculation of benefits (based on the rules for that department, by individual employee, or some combination thereof) provides convenience for your budgeting manager. At the same time it ensures proper controls are in place for the finance team. Similarly, providing a default salary increase (across the board or by employee class) frees up managers to focus on the employees who should be an exception to the rule based on merit, market adjustment, etc.
6. **Dig for details.** Provide prompts for critical but often overlooked compensation information that is only available to the employee’s direct manager. This includes costs like sales or performance bonuses, overload payments, stipends or overtime.
7. **Document the decisions and rationale.** Ensure there is a mechanism to capture the justification behind each key decision. This information provides insight for the finance and management teams if adjustments to the budget are needed. In addition, it increases the ability to track budget to actuals throughout the year and captures historical knowledge to inform next year’s budget or in the case of turnover.
8. **Provide a detailed checklist,** ideally a guided process, to ensure less financially-savvy department heads don’t miss any of these key steps along the way.

Joanne E. Brunn, Ph.D. serves as Chief Executive Officer of XLerant, www.xlerant.com, provider of cloud-based budgeting, forecasting and reporting solutions for small and mid-sized businesses. She holds an MBA in Finance as well as a PH.D in Human Sciences.

The POWER is YOURS

PowerPivot and DAX: Business intelligence for the people

MATTHEW MOWREY

The buzz in finance these days is about automation, but some interesting studies on algorithm aversion may keep humans at a standoff with robotic process automation (RPA), artificial intelligence (AI) and machine learning (ML) for a while. Cost is a factor, but so is our need for control. For as long as we need control, we also need business intelligence tools that give it to us.

PowerPivot and its coding language, Data Analysis Expression (DAX), are a middle ground between total automation and strung-together Excel sheets with enough VLOOKUPS, formatting and outside links to make it crash on open every time. Together, PowerPivot and DAX form the data-crunching mechanism in what has become known as Power BI. PowerPivot models data from and spreads logic over disparate data sources, which render results in pivot tables, visualizations and other types of reporting with significantly fewer formulas. Where we once relied on sophisticated array formulas, VBA, MDX and other specialized knowledge, PowerPivot brings business intelligence to the people in a way that simultaneously marches towards automation, but still gives us control.

PowerPivot is not only for business and finance purposes; it can be used for other quantitative and qualitative applications—imagination is the only limiting factor. PowerPivot does, however, play well with finance since it's a numbers-based, data-driven science. The finance-related PowerPivot applications are numerous, from creating production-ready reports to calculating KPIs to building forecasting models and much more.

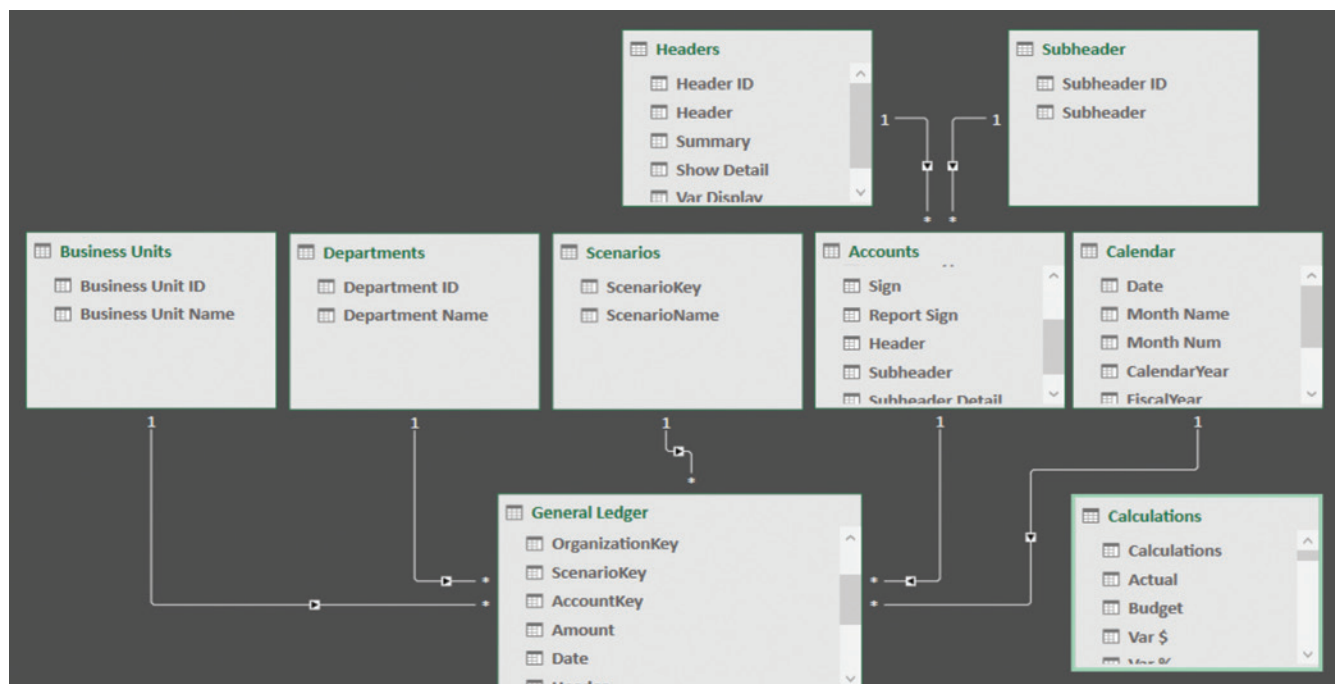
And this power is found in—yes, you guess it—Excel. It's also in Power BI Desktop (PBI Desktop), but Excel is more versatile for many finance-related applications. First, most of us are used to Excel, which is an often-underestimated benefit. Second, Excel allows us to build front-end Excel input (or model) that can be digested in PowerPivot and mashed-up with other data sources. PowerPivot—in Excel and Power BI—communicates with its enterprise-level big sister SQL Server Analysis Services Tabular (SSAS Tabular). Both Excel and PBI Desktop are fine tools, but I prefer Excel for these reasons

Where to begin: A Mindshift

Using PowerPivot is not always easy, but the investment pays off. Using PowerPivot forces an understanding of the true nature of data, which is different than traditional report and analysis writing. Recognizing pivoted versus unpivoted data is crucial. Though pivoted data can be loaded into PowerPivot, it will force some bad habits. PowerPivot, in contrast, wants you to load unpivoted data to it. An example of pivoted data would be a column for every month, versus one “month” column, which is unpivoted. If a data source is pivoted, there are ways to handle that with the ETL tool Power Query, which is also built into Excel and Power BI Desktop. After creating an unpivoted data source, understanding fact and dimension data is essential.

Facts tables contain amounts, whereas dimension tables contain attributes about your facts. For example, if fact data has an account number, it's often necessary to have further information about accounts (e.g. is it revenue or expense), which would be housed in the dimension table. This will become more important later in the data modeling and DAX writing example. If the revenue and expense attributes are buried in the same table as your facts, that means facts and dimensions need to be separated, creating multiple tables. In the SQL world, these are called views. After mastering unpivoted fact and dimensional data, relationships of those data are the next essential concept.

Figure 1: PowerPivot and DAX



The image above is a data model built in the PowerPivot window of Excel. The primary purpose of this model is to create an income statement report; a secondary purpose is visualizing various income statement-related KPIs. Fact data comes from the general ledger, which is the bottom layer. The middle and top layers are dimensions (the top being a “dimensions of a dimension” if you will). This is the diagram view. When you first pull in data from either an Excel workbook or another source, lines are literally drawn to create relationships. Once the relationships are made, the data model is ready for logic (DAX).

Data modeling in PowerPivot thrives on one-to-many relationships, where the “one” side is dimensional data and the “many” sides are facts. Dimensional data is a list of unique values, like account numbers. Account numbers (or an equivalent key) are also found in the fact table, but they are listed many times, maybe once per month over many months. Once this one-to-many relationship is created, then all the attributional data about the account becomes available for DAX calculations and slicing-and-dicing in pivot tables and visualizations. If the account is available in another fact table, a second set of facts can be modeled in. The payoff: Imagine a table with facts about monthly actuals and one with monthly budget both joined on account. DAX can now be utilized to write business logic across these two tables via the account dimension.

DAX’s syntax is comparable to Excel, making it easy for Excel users to learn. The learning curve is akin to that of learning a musical instrument—after developing some muscle memory, the creativity comes pouring out. DAX formulas are applied across large swaths of data using a combination of filtering and calculation. Because formulas are applied across a dataset, there are much fewer DAX formulas than you would have in the comparable Excel model. For example, if you have a report that spans 24 months, a calculation in Excel is likely repeated 24 times. In DAX, that formula can be written once and spread across 24 months via the date relationship created in the calendar table. Not only does this significantly decrease user error and maintenance, but it also makes the analysis replicable across a new set of 24 months relatively easily.

PowerPivot applications for finance

PowerPivot and DAX can be used for everything from ad-hoc analysis to an enterprise-level business intelligence system. They can be used to create both exploratory and explanatory analysis through pivot tables, visualizations and even SSRS reports. Profit & loss statements, balance sheets, cash flow projections, KPI development, forecasting models, and sensitivity analysis are just examples of what is possible using PowerPivot and DAX.

The enterprise-level solution, SSAS Tabular, looks and feels the same way the interface does in Excel. This means that, assuming access to a SSAS Tabular instance, the server looks and feels the same. There is a lot more capability in SSAS Tabular than in Excel or Power BI Desktop, but the ability to understand data models and DAX is the same in each of these tools. Moreover, a solution can be developed in Excel and then upscaled to SSAS Tabular, which gives new meaning to working with an SQL expert. It’s a more synergistic relationships because PowerPivot and DAX “meet in the middle” on coding business logic. Once a solution is on SSAS Tabular, it can be accessed through a connection in Excel, Power BI Desktop, SSRS reports—a truly versatile enterprise-level solution.

Use Case: The ever-changing income statement

If the business changes, often the income statement also changes. Accounts may be grouped into new categories. Departments may be realigned to a new manager. Business units may be acquired or retired. It’s often difficult for finance to keep up with these changes, let alone implement a solution in a timely manner for many reasons that are not necessarily their fault. One reason could be that the reporting solution requires sophisticated coding, which requires an investment in “requirement translation.”

Another reason might be an ERP’s underlying structures. For example, an ERP’s department list of values (dimension) may be organized in a way that once suited the business, or maybe it’s a flat list and there’s no hierarchical or other organization at all. A combination of PowerPivot and DAX can help keep up with changes to an income statement. There are various techniques (e.g. cascading subtotals and use of SWITCH) where PowerPivot and DAX not only filter and calculate, but also dictate how information is displayed. Further, Excel CUBE functions can remove the oft-despised pivot table, so it can be formatted in a much more formal way, but will still refresh with updated information. And don’t forget about our enterprise-level solution (SSAS Tabular) that is much more than just an Excel file.

Figure 2: Use Case for PowerPivot and DAX

	A	B	C	D	E
1	Row Labels	Actual Total	Budget Total	Variance \$	Variance %
2	Revenue	26,993,627	25,772,400	1,221,227	5%
3	Cost of Sales	8,006,173	8,088,000	81,827	1%
4	Gross Profit	18,987,454	17,684,400	1,303,054	7%
5	Operating Expenses	8,899,372	6,914,080	(1,985,292)	-29%
6	Administrative Overhead	99,887	80,570	(19,317)	-24%
7	Office Supplies	56,315	49,290	(7,025)	-14%
8	Professional Services	43,572	31,280	(12,292)	-39%
9	Commissions	802,538	606,600	(195,938)	-32%
10	Labor Expenses	6,877,592	5,366,550	(1,511,042)	-28%
11	Marketing Expenses	63,562	48,610	(14,952)	-31%
12	Other Expenses	36,642	29,620	(7,022)	-24%
13	PP&E Expense	153,333	123,270	(30,063)	-24%
14	Rental Expense	261,526	204,450	(57,076)	-28%
15	Telephone & Utilities	360,923	270,120	(90,803)	-34%
16	Travel Expenses	243,369	184,290	(59,079)	-32%
17	Operating Income	10,088,082	10,770,320	(682,238)	-6%
18	Other Income & Expense	36,375		(36,375)	
19	Depreciation & Amortization	34,326	19,180	(15,146)	-79%
20	Interest Income/Expense	(17,351)		17,351	
21	Taxes	1,863,759		(1,863,759)	
22	Net Income	17,070,345	17,665,220	(594,875)	-3%

Take a second look—do you see the pivot table doing amazing things? The pivot table uses a combination of DAX that not only calculates, but also determines display of information through various filtering mechanisms. The “values” in the pivot field are DAX I wrote to determine the calculations and display; the “rows” contain dimensional members.

The above income statement example can be useful for exploratory analysis. DAX measures in the “values” column of the pivot field above are the outcome of a string of iterative logic. Embedded within that string of logic are calculations for revenue, cost of sales, operating expenses, and the other major categories as depicted on the income statement above. To get an idea of what DAX looks like, here is the measure for the revenue portion of the “Actual Total” measure:

```
Rev Act:=CALCULATE([Actual Amt],Headers[Header]="Revenue")
```

CALCULATE is a super-charged SUMIF. [Actual Amt] is another measure (a precedent dependency in the logic iteration) that basically sums the values in the amount column of the GL fact data table. In plain English, the “Rev Act” DAX formula here is saying: “Sum the values in the amount column if the header name on the header table equals ‘revenue.’” The values on the GL fact data table are a mixture of revenue, cost, etc., so the second segment of this formula calls on the Header table to filter out only those values that equal revenue.

The income statement above is rather vanilla as far as income statements go—it contains typical line items and detail, attributes that are likely included in the data. Imagine for a moment that the business’ requirement turns from this view to one where operating expense need to be grouped by department. This requirement forces the income statement lines to become “asymmetrical” because some of the report requires aggregations and attributes found in an account dimension for some categories (e.g. revenue and cost of sales), but a grouping of operating cost by department, which is a separate data dimension. PowerPivot and DAX allow the report to become highly customized through a mixture of filter, calculation and display logic.

An income statement use case and the small bits picked from it are only the tip of the iceberg. The approach used in this income statement model is only one approach of many. Predictions continue that Power BI will become a bigger part of finance soon. I completely agree, but it’s not all about pretty pictures and Power BI Desktop, it’s also about Excel, SSAS Tabular and amazing business logic that will help any business gain insight—unprecedented even—into their operations, finances and customer satisfaction.

Matthew Mourey is senior director, finance, analytics, and business performance for DAI.

**FP&A®****Certified Corporate
Financial Planning &
Analysis Professional**

When you join the list of FP&A credential holders, you'll be in good company.

VERIZON**CARGILL****RED HAT****GE CAPITAL****NBC UNIVERSAL****NORDSTROM****DISCOVER FINANCIAL****FEDEX****NCR****LINKEDIN****BLACKROCK****JOHNSON & JOHNSON****SENTARA HEALTHCARE****QUALCOMM****MARS, INC.****AMAZON****STARBUCKS****SHELL****SLACK****TOYOTA****NORTHROP GRUMMAN****WHATABURGER****KAISER PERMANENTE****ORACLE****J.M. SMUCKER****WARNER BROS****ANCESTRY.COM****KPMG****DELL****HAMILTON BEACH****FACEBOOK****GENERAL MOTORS****CIGNA****AMWAY****HALLIBURTON****SOUTHERN COMPANY****AFLAC****NASCAR****VANDERBILT****TRACTOR SUPPLY CO.****LOCKHEED MARTIN****ACUITY****DEADLINE FOR APPLICATIONS IS JUNE 21****Apply at FPACert.org/Apply**

Winning ENTRY

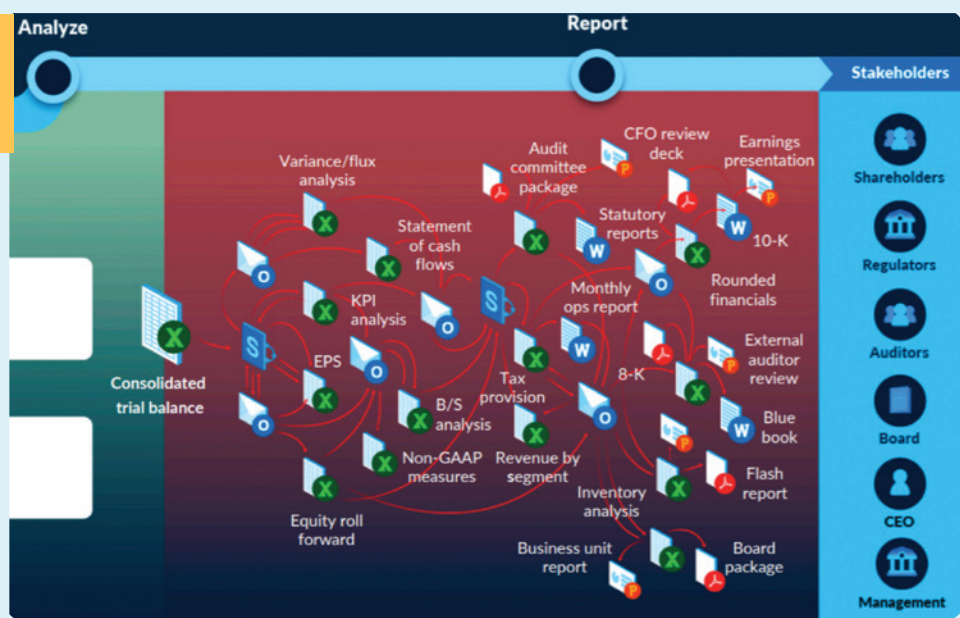
A look at the first FinNext Tech Challenge champion

DOMINICK FATIBENE

Before joining Workiva, I worked for General Electric, where I had roles across finance, accounting and internal audit. Most notably, in my last role, I was the corporate FP&A manager responsible for working capital cash flow planning, analysis and reporting across the company. I had to manage competing priorities, analysis, reports, contributors, internal and external stakeholders, and so much more across my organization. Today, my job is to put that experience to work for other companies by identifying opportunities to simplify finance and accounting processes using the Workiva platform.

At FinNext, we had the opportunity to put these capabilities on display in the FinNext Tech Challenge. Our approach demonstrates why so many accounting and finance organizations have evolved to connected reporting.

Image: Today's analysis and reporting is complex, inefficient, and risky.



Trends and Performance (2016-18) (\$Millions)



Source: Workiva.

Note: The green lines underlined and green boxes indicate information that is linked directly to analysis.

Trending Commentary

Summary

Revenue and Cost rose dramatically since 2016 driven by Northeast, Canada and South regions.

- Gross Margin decreased (63)bps to 49.4% from 2017 to 2018

Revenue

Revenue of 24.90M grew in all segments, up 36% in 2017 and up 27% in 2018, driven primarily by Canada, Northeast and Central regions.

- Revenue growth rate in 2018 decreased (24)%, with decreases in all regions except Canada
- Canada revenue growth driven by unit sales increases

Cost

Cost of 12.61M grew in all segments, up 33% in 2017 and up 29% in 2018, driven primarily by Canada, Northeast and Central regions.

- Cost growth rate in 2018 increased 19%, with increases in every region.

The challenge

The FinNext Tech Challenge presented contestants a hypothetical company, Beyond Books, with fictional operations in eight sub-regions across the United States and Canada. It had three years of detailed financial data by item and sub-region.

Beyond Books' "management" was looking for vendors that could improve process efficiency, accuracy, and confidence in their everyday FP&A processes, specifically around preparing performance assessments and developing forecasts. Competitors were asked to accomplish the following.

- Gather, collect, and import data from Excel or directly from systems
- Prepare and cleanse data, such as calculating revenue and gross margin
- Perform analysis, including variance and driver analysis
- Prepare and collaborate on simple forecasts with contributors across the organization, and
- Create and present clean and organized reports that are linked directly to analysis.

In my prior life in FP&A, these were real challenges. When we introduced Workiva to GE, I saw exactly how technology addressed these challenges by automating routine processes, streamlining steps and connecting data throughout it all. This allowed us to focus our time and effort on more insightful analysis that drove business decisions.

For the FinNext Tech Challenge, software vendors were asked to solve Beyond Books' challenges, with FinNext attendees voting for the winner.

The approach

Let's take a look at what we presented to Beyond Books' management.

Beyond Books' first question to competitors was: "What areas show strength and weakness of sales and gross margin over the past three years?"

This is a typical FP&A question during close cycles. The period just ended for Beyond Books, and they needed to understand what actually happened. Most of our analysis is likely routine and repetitive of the same analysis we performed last period. Some analysis is probably new and performed based on our need to understand unique business circumstances. Either way, we needed to:

- Collect and gather the data
- Review and prepare that data for our analysis
- Perform analysis that drives insights, based on the events of the last three years
- Create and present a summary of our findings.

We needed to do all of this while working with multiple collaborators to put the assessment together. Fortunately we were able to perform all of this in the Workiva platform. We had the ability to import structured and unstructured data from multiple sources, perform analysis, prepare reports, and work across the organization—all in one place while being able to present and share reports with internal and external stakeholders directly from the platform.

Finally, we created a sustainable and repeatable process that allowed the FP&A team at Beyond Books to instantly update future summaries and commentary with a few simple clicks, thanks to the data linking within the platform.

One of the features that attendees found most interesting was the ability to integrate commentary with analysis. In the world of FP&A, we play a continuous game of ordering drivers based on the level of impact they have on the organization. For example, if France had revenue of 100 and Germany had revenue of 120 we would prepare a sentence that said “primarily driven by Germany 120 and France 100.” We showed attendees that our platform could be set up to rank drivers by impact and then reorder those drivers in the commentary in our presentation automatically.

Management’s next question to competitors: “Can you develop and present a simple 2019 forecast?”

Here’s what we needed to prepare this forecast:

- Historical data (which we can take from our first challenge question)
- A space to prepare and organize our forecast by region
- Ability to share our forecast with regional FP&A managers and securely make adjustments based on their input
- A way to create and present a summary of our forecast.

Again, we created a simple, corporate-owned forecast. We created one spreadsheet with a tab for each region and granted limited permission to the relevant regional FP&A managers to access specific tabs. Each FP&A manager could also change only the cells they had permission to edit. We tracked all updates made across our forecast to ensure we had context into the changes. Finally, we prepared our own analysis within the same spreadsheet, only accessible

to our corporate team. Similar to the first question, we created and linked a presentation directly to our analysis and presented from the Workiva platform.

Management’s final question to us: “What products should the company be focused on selling more and less of?”

The difference between this assessment and our first assessment was that we needed to evaluate individual products to identify items that were influencing business performance. So we repeated the assessment we did for the initial question and identified high and poor-performing products.

Streamlined process

Workiva helped streamline Beyond Books' process, improved efficiency and accuracy, and gave confidence in what was reported to management. By connecting data, people, and processes, we were able to provide timely insights to the decision-makers.

I hope our presentation from the FinNext Tech Challenge encourages you to think differently about your own process. Every workplace has inefficiencies, but the right software coupled with the right questions and analysis can help both you and your organization efficiently and confidently reach your objectives.

Dominick Fatibene, Senior Product Marketing Manager at Workiva, works exclusively with controllership and financial planning and analysis teams.

FC

2. FinNext challenge Forecast template

File Edit Data View

Publish Undo Redo Save As Import Export Properties Permissions Health Rename

2. FinNext challenge ...

AC1 X V Fx

Mid-Atlantic Region

2016-2018 data

Consolidated Budget

Canada submission

USA submissions

Central

Mid-Atlantic

Northeast

Northwest

Restricted

Southeast

Southwest

Budget Analysis

Total Co Metrics

GM Trending

KPIs and Metrics

360 of 360 rows match filter

2019 Budget

2019 Budget - Price

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

2019 Unit Price

2019 Final Unit Price Budget

2019 Unit Price

Inflation adjustment

Other adjustments

2019 Final Unit Price Budget

201

Source: Workiva.

Past, Present & FUTURE

How corporate
FP&A has changed—
and what lies ahead

HARSHIT CHATUR, CTP, FP&A

Organizations, over time, have seen numerous changes, both internally and externally. And, while some of these were gradual, others have been more rapid. One of the biggest changes many organizations have experienced throughout the spectrum is the growth of financial planning and analysis (FP&A) teams.

Today, we are seeing a completely different approach by corporate FP&A teams. In many organizations, FP&A teams have grown from single digits to dozens of professionals, and what used to be a mere support function has now turned into one of the most critical functions of the finance department.

The roles and responsibilities of FP&A professionals have evolved over the years to what they are today, where they perform financial analysis, such as valuations of a company's assets, budgeting and forecasting, management reporting, assisting senior management in strategic decision making, and supporting teams across the organization in their respective objectives. In this article, we walk through what FP&A used to do, what it is currently doing, and the trends we are likely to see in near future.



Past

About 10-15 years ago, entire financial planning teams were based at corporate headquarters and would comprise just a few members. The team's role was limited to preparing a budget once a year for the company and refreshing the financial forecast once every quarter. These budgets and forecast would project cash flows only for the next fiscal year or two, and analysts would use a simple bottoms-up approach and 'p times q' calculations to come up with revenue and expense estimates.

As these teams handled limited data, they mostly relied on Microsoft Excel spreadsheets to manage and consolidate estimates for regions and business segments. Some bigger organizations with more diversified businesses and international presence, however, used financial planning systems such as SAP Business Planning and Consolidation (SAP BPC) or Hyperion Essbase. Granularity of data too would mostly be limited to monthly estimates projecting high-level overview of major revenue and expense categories. The concept of a 'rolling forecast' was seldom used. Final consolidated figures were presented to executive management, and for public companies these were eventually given to Wall Street as guidance. As the analysts were handling less data, and updating it less frequently, variance reporting and related analyses too were done as high-level explanations of major deviations and trends.



Present

Today, however, we are seeing a completely different approach by corporate FP&A teams. In many organizations, FP&A teams have grown from single digits to dozens of professionals, and what used to be a mere support function has now turned into one of the most critical functions of the finance department. What has caused such a significant shift in corporate FP&A roles? Let's review few of those triggers and trends that organizations have witnessed.

Handling enormous data:

First and foremost, financial planning teams today are handling enormous amounts of data. Forecasts have become extremely granular and more and more optimization models are being used to project revenues and expenses. Planning systems not only store revenue and expense line items, but also operating characteristics of assets, calculated performance indicators and ratios, financial statements, multiple hierarchies, etc. In addition, these systems also store past budgets and forecasts, actuals, backcast projections and other sensitivity and scenario runs.

Sophisticated models:

Baseline revenue and expenses are now being projected using more complex models which incorporate Monte Carlo simulations and account for seasonality, stress cases, backcast runs, extreme events, different market environments, industry trends and multiple operating characteristics of assets. In the absence of externalities, these models, which process large amounts of data, are now getting much better at predicting more reliable and reasonable forecasts.

Longer forecast horizon:

Further, forecasts horizons have increased from a few years to much longer durations. This could range from a five-year rolling forecast to entire life

of a project or asset. Long-term granular projections help analysts vastly in financial modeling, valuing these assets, the portfolio, the entire business, or the company stock with much more reasonable basis than simply using ratio analysis.

Reliable systems and applications:

As the amount of data has increased, this has resulted in companies investing significantly in reliable data warehouse systems, servers, and planning applications. With constant pressure to turn things around quickly, huge importance is given to design, performance and customization of these applications as per the business' needs. Time and ease in loading data to the database cubes, calculations and consolidation of data within the cubes, and retrieval of processed data back from these applications to more popular front-end tools such as spreadsheets has also played an important role in selection of the application.

Increased users and training:

Another key trend we've seen is recognizing the importance of efficient and accurate financing planning within the organization. Because of increased 'ownership' and accountability of inputs and data, customers or users of financing planning systems and data too have grown significantly within the organization. To reduce the bottlenecks and to increase efficiencies, companies have also increased investments in licenses and training for these applications.

Automation:

One of the key developments in the last decade has been an emphasis on automation. What used to take days is now being done in minutes. We are seeing more systems and applications across the departments being interconnected and processes being automated. Planning teams, which used to forecast once a quarter, are now refreshing the entire forecast once a month or sometimes even once a week. These automations not only have decreased processing times, but have also increased accuracy by reducing human errors.

Increased analysis and reporting:

Granular data has enabled deeper dives into variance analysis and identifying the core drivers causing the variances. This greatly helps not only in understanding variance drivers but also in improving projections of future forecasts. Related

valuations using long-term cash flows help in optimizing fleet operations; identifying cost reduction opportunities; enhancing retirement or impairment analysis; and managing companies' future capital allocations on costly repairs, refurbishments and development projects. FP&A teams now generate a large number of reports for internal management and departments, as well as external stakeholders.

Extended support:

Gone are the days when FP&A teams would just provide quarterly forecasts or do an annual refresh of the portfolio. FP&A teams today cater to the needs of wide range of departments. They not only provide senior management the latest view on actual and projected business performance, they also:

- Assist risk management in quantifying and assessing risk, as well as help with risk control products such as hedges
- Aid asset management in appraising performance of individual assets and portfolios
- Help mergers and acquisitions and business development in identifying more opportunities in existing markets
- Support investor relations and external rating agencies in answering specific queries related to business units and legal entities
- Support treasury in tracking and projecting the company's cash balances.
- Service various requests from human resources, internal audit and other departments.

In essence, the FP&A team is a centralized single source of truth that provides and maintains past records and future projections of the company's businesses.

Skillset:

As the need for more in-depth and thorough analysis has increased, this has also resulted in FP&A teams attracting professionals with more talents and skills. Analysts these days, along with their basic finance and accounting skills, are also expected to learn the industry, systems and applications, markets, company goals and strategies, different businesses within the organization, etc., at a much faster

rate. Along with experience and degrees in finance and business, FP&A professionals are increasingly trying to get related certifications and licenses to keep their skillset fresh and up-to-date.

Centralized and decentralized teams:

As the roles and responsibilities of the FP&A function have grown tremendously, teams are much bigger now than they used to be. Larger organizations have split FP&A teams across departments, divisions and geographical locations, but all cater to the needs of the corporate FP&A team.



Future

And now the big question: FP&A teams have come a long way, but what changes can we expect to see in the future? Other than the continued improvement in things happening currently, as listed above, there are at least five additional changes we'll see in near future.

Increased adoption of cloud platforms:

It has already started, but the transition to the cloud will speed up more as the costs keep coming down and reliability keeps increasing. Switching to cloud platforms will facilitate easy accessibility and will reduce monitoring of IT infrastructure, databases and servers. This will also help FP&A analysts spend more time in analysis and less on gathering data.

Higher flexibility and customization:

With continuous technological advancement, ever-changing regulations, unrelenting social, geopolitical and environmental pressures, business and industries are changing at much rapid pace today than ever before. We'll likely see companies with more integrated businesses, diversified portfolios and a larger geographical presence. Continuous and increased consolidation and divestitures of businesses would ask for faster and easier reporting, analysis and valuations of entities as whole and as parts. This will result in the need for more flexible, customized and thorough design of planning systems to quickly incorporate new businesses or spin-off existing assets.

Boosted acceptance of artificial intelligence (AI):

Data analytics is the core of the FP&A function and usage of AI will find more acceptance in future. Few planning applications already offer smart tools for data analytics and we'll likely continue to see good enhancements on what these tools can do in future. Measurable and repeatable tasks will be performed using AI and it will deliver results much faster than humans. Together with automation, more work will be done with less resources and faster.

Superior performance and quicker turnaround times:

We'll see accounting close cycles getting shorter, and analyses and reporting being done faster. We'll also see more intra-month updates giving executives an opportunity to track numbers more closely and make quick business decisions as necessary. This particularly helps companies dealing with more volatility to either mitigate risks or grab opportunities.

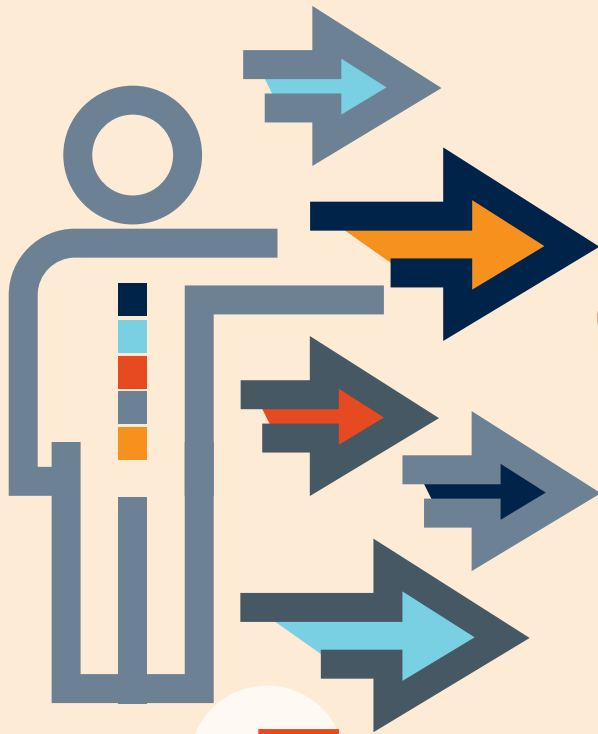
FP&A as critical role: FP&A will no longer merely be a support function, but it will be a critical role. FP&A enables individuals to see the full picture of a company's businesses, past performance and future projections. This tremendously helps analysts to understand what has been working and where things need redirection. Such exposure will continue to attract better talent and skillset, which is essential for the role. Organizations will also invest more in keeping the skillset of FP&A professionals up-to-date.

I'm sure we'll see more changes than the ones listed above, and likely FP&A roles will get bigger and grow even more critical to what they are today. The increased demand for this function, as well as the emergence of new technologies, will surely attract more highly-skilled talent. FP&A is an exciting space to watch, as these changes start occurring and help shape the future of their respective organizations.

Harshit Chatur, CTP, FP&A, is Director of Finance at NRG Energy, Inc.

Disclaimer: Opinions expressed are the author's own and not the views of his employer.

NATHANAEL VLACHOS, RACHELE COLLINS,
STEVE PLAYER AND BRYAN LAPIDUS, FP&A



Common Grounds

Five practices of highly effective FP&A teams

From November 2018 to March 2019, APQC and AFP conducted survey and interview research of more than 400 financial planning and analysis professionals to understand the current techniques, tools, and technologies used by organizations for FP&A and the associated skills required. Among its many findings, the study revealed that only a third of organizations ranked their FP&A as extremely or very effective in contributing to the organization's strategic goals. The good news for the other two-thirds is that there is no secret recipe for effectiveness in FP&A.

The study team found that across the board, FP&A teams at leading organizations leverage a common set of practices to provide forward-looking, mature analyses and reporting that truly drive business results. These practices have allowed the most effective FP&A teams to leave their traditional accounting and budgeting role and transform into a forward-looking function concerned with decision-making and the prospective allocation of capital in an ambiguous future.

The following article summarizes the top practices that were significantly more prevalent at survey respondents who rated their FP&A as extremely or very effective.

1. Strong business partnering skills

At leading organizations, FP&A has transformed from its traditional budgeting and scorekeeping role to become an indispensable business partner with a seat at the decision-making table. An analysis of the survey data found that highly-effective and moderately-effective FP&A teams are significantly more likely to consider business partnering skills—which include an intimate knowledge of the business, the ability to translate key data for the business through effective reporting, and a collaborative attitude in working with others—as necessary, in comparison to FP&A teams that were rated as slightly effective or not effective.

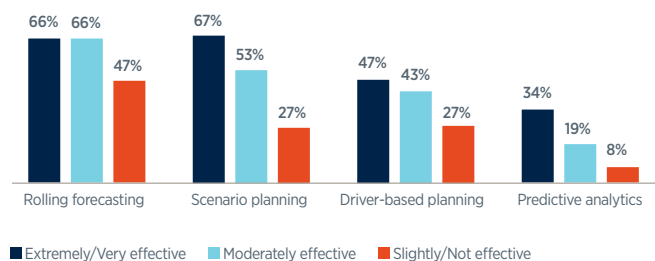
FP&A teams that have embraced a business partnering role have quickly become an indispensable source of analysis and insight for their organizations, but business partnering requires careful thought and planning. “Strong finance business partnering is a culture that you have to build, and you have to put the right people in the right roles,” said Geetanjali Tandon, digital and transformational finance lead at Bayer Crop Science. “You have to develop a skillset that allows you to ask questions beyond the report and beyond what the data is telling you.” The study team found that organizations leverage a range of approaches to build business partnering skills, from job rotations to book clubs, finance academies, stretch assignments, and certifications.



2. Emergent planning practices

A critical success factor of FP&A's transformation in many leading organizations has been the shift from planning as an annual event to planning as a continual and dynamic process. The study found that very/highly effective FP&A teams are significantly more likely to leverage practices like rolling forecasts, scenario- and driver-based planning, and predictive analytics in comparison to FP&A teams that are slightly effective or not effective at all. As shown in the figure below, for example, 67 percent of organizations who identified their FP&A teams as extremely or very effective leverage scenario planning, while only 27 percent of slightly effective or ineffective teams do.

FP&A Effectiveness Compared to Frequency Percentage of Practices Leveraged

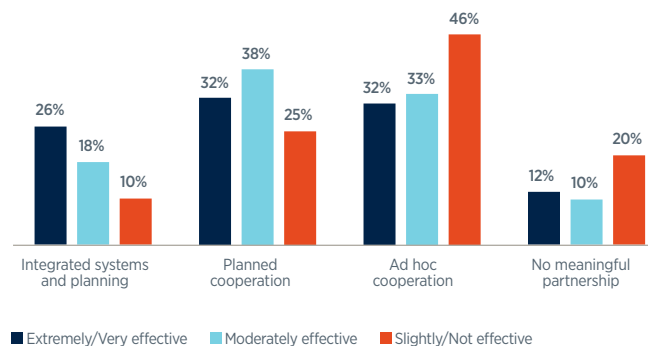


For extremely effective or very effective FP&A teams, these emergent practices have fundamentally changed the nature of planning for the better. Reflecting on her tenure as vice president of FP&A at tw telecom, for example, Nevine White, executive-in-residence at Live Future Ready, noted that the move to eliminate budgets at the organization constituted “a significant shift in the structure of our planning, and more fundamentally, led to a transformation in the relationship between FP&A and the business.” With more dynamic planning and forecasting, FP&A was able to streamline its annual reporting from a budget that was hundreds of pages long to a 20-page summary of the organization’s strategic initiatives, risks, and opportunities. “Our board really liked that document because it was very concise, and accountability became much more about our current numbers and new projections rather than meeting or failing to meet our budget,” White said.

3. Integration and collaboration with treasury

APQC has found that siloed and non-integrated systems, structures, and processes pose some of the biggest challenges for finance in 2019. Extremely effective and very effective FP&A teams have successfully met these challenges in part through strong partnerships between FP&A and other functions. For example, an analysis of the survey data found that participants rating FP&A as more effective were significantly more likely to have a higher level of integration with treasury in comparison to less-effective FP&A teams. There are still plenty of opportunities for improvement in this area across the board. Only 26 percent of FP&A teams rated as extremely/very effective, for example, leverage integrated systems and planning between FP&A and Treasury. Even so, less effective FP&A teams lag much further behind, relying primarily on ad hoc forms of cooperation or reporting no meaningful partnership at all.

FP&A Effectiveness Compared to Level of Integration with Treasury



A strong partnership between FP&A and treasury is a critical success factor for both groups. While treasury traditionally takes a short-term view and is focused on cash, FP&A takes a medium- to long-term view and is focused on accounting income. Relationships between the two entities can help both functions: FP&A can think about the cash impacts of the forecast and initiatives in order to inform treasury, while treasury can warn FP&A about risks and opportunities in the capital structure (such as shortfalls, credit risk, and rating agency requirements) that may be useful to forecast for the overall health of the organization.

4. Clearing space for value-added work and analysis

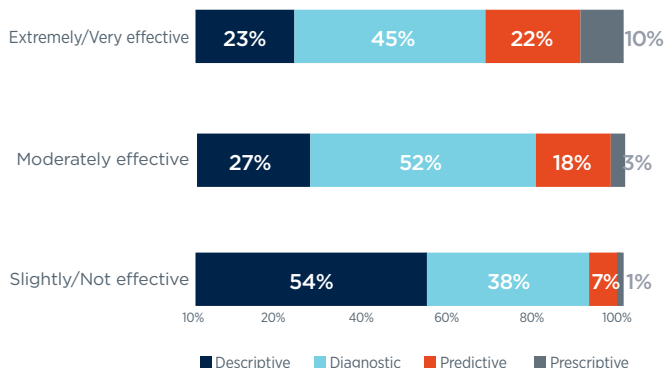
The study found that technology is a critical enabler of FP&A's ability to form and maintain strong business partnerships, especially when it comes to communicating insights that help drive the business forward. Providing these insights requires clearing time and space for more value added work—an opportunity that many organizations have yet to take advantage of. Respondents to the survey reported that their FP&A teams spend 75 percent of their time gathering data and administering processes, down only two percentage points from 77 percent when the question was last posed nearly a decade ago in 2010.

FP&A organizations rating themselves as very or extremely effective were significantly more likely to leverage data visualization tools and reporting automation to spend less time gathering and managing data and to communicate the key takeaways of reporting more effectively. For example, the finance lead at the global technology company profiled in the study reported that the organization's bottom-up and top-down forecasting processes once took 600 to 700 people and three weeks to complete. With machine learning tools, cycle times for forecasting have been reduced from weeks to hours, the variance rate has been cut in half, and labor hours have been markedly reduced. Across diverse organizations, the ability to reduce transactional and routine finance work and spend more time on value-added analysis was a critical success factor in building strong business partnering relationships.

5. Mature analyses that drive business results

According to FP&A expert Philip Peck, emergent technologies and capabilities like machine learning, cloud computing, RPA, and AI "have played a role in helping FP&A move from providing hindsight to insight to foresight." The study found significant opportunities for growth when it comes to providing this foresight: Only 22 percent of respondents, for example, would characterize their analytics as playing a prescriptive or predictive role, and far more continue to leverage standard practices like diagnostic and descriptive analytics. Respondents that ranked their FP&A teams as extremely or very effective, by contrast, had significantly higher levels of maturity in their analyses.

FP&A Effectiveness Compared to Maturity Level of Analysis Used



As the figure above shows, FP&A organizations that rate themselves as slightly effective or not effective remain largely entrenched in traditional forms of analysis and provide markedly less predictive and prescriptive analysis than extremely/very effective organizations. This analysis reflects an opportunity to continue building technology skills for FP&A: Nearly 70 percent of respondents noted the need for FP&A professionals with skills in predictive analytics, and nearly 80 percent need those with data management skills. Developing these skills remains a significant opportunity for growth in many organizations.

Preparing for the next level of planning and analysis

The practices leveraged by the most effective FP&A teams represent more than a passing fad. Across the board, the FP&A leaders and process owners interviewed by the study team reported that these practices pay real dividends in terms of stakeholder satisfaction, the ability to drive business performance, and the perception of FP&A as a valuable business partner. Preparing for the next level of financial planning and analysis means investing in these approaches for business partnering that helps drive the business toward success.

As principal research lead, Rachele Collins, Ph.D., is responsible for APQC's best practices research in financial management. A certified Senior Professional in Human Resources, her education includes the University of Texas at Austin (BBA) and Texas A&M University (MBA finance, Ph.D. HRD).

Steve Player is a senior research fellow working with APQC's financial management research team. Player is co-founder of Live Future Ready and the North America program director of the Beyond Budgeting Roundtable (BBRT).

Bryan Lapidus, FP&A, has more than 20 years of experience in the corporate FP&A and treasury space working at organizations like American Express, Fannie Mae, and private equity-owned companies. At AFP he is the staff subject matter expert on FP&A. Bryan also manages the FP&A Advisory Council that acts as a voice to align AFP with the needs of the profession.

PEOPLE POWER



Verizon needed to upskill its finance team. Here's how they did it.

IRA APFEL

How do you take a large, successful finance team and make it even better? Verizon is a global company with more than 140,000 employees on the cutting edge of evolving telecommunications technology. Across its dynamic, multi-layered finance organization, Verizon is looking to enhance the skills of its team by promoting strategic thinking with an emphasis on technical, analytical, and digital skills.

For Matt Ellis, Verizon's Executive Vice President and Chief Financial Officer, training his team means eliminating any current skill gaps as well as anticipating what new skills the team will need in the future. "We continue to evolve our professional development programs to meet the changing environment," he said. "Our objective is to create a clear path to master each skillset needed. Employees need access to training and tools so they can expand and strengthen their skills and grow throughout their entire career with us."

Training takes on a slightly different meaning for Ellis' direct reports.

Jeff Altman, Director, Finance Leadership Development, is focused on identifying future executives who can truly shape the finance organization. “Our goal is to develop the next generation of finance leaders for our team,” he said. “They need to have their technical skills but we also really focus on creating growth opportunities that will help mature their soft skills.”

From a practical perspective, Shane Sanders, SVP Corporate FP&A, wants to focus on getting more out of finance staff—richer, more strategic observations. “I want to advance us from reporting what happened to delivering an advanced forecast that can provide deeper insights and help the business make smarter decisions,” he said. “The role of finance has become more demanding. It’s not just about being able to provide technical reports, it also requires employees to predict and provide strategic recommendations. The predictive piece is the true value and differentiator.”

Meanwhile, Monty Garrett, SVP Internal Audit, wants to help his team be better business partners to colleagues outside the finance group. “I’d like finance to be more technical and analytical in nature and have the ability to work across the organization to help drive the business decisions made by senior leaders,” he said.

Because of all these new opportunities to advance their scope, Verizon has steadily increased its finance training budget in recent years. “While it has always been evolving, we have seen a significant increase in training in the past 5-10 years,” Sanders said. “Finance employees have evolved into strategic partners and their professional development has expanded to include even more skills and capabilities.”

With so many overlapping training agendas, it’s no wonder that Verizon decided to take a step back and create a more strategic approach to staff education. The three-step strategy:

1. **Focus on long-term needs**, including technical, digital and soft skills
2. **Expose staff to different organizations across the enterprise** through new job assignments
3. **Provide new training experiences** and making them easily accessible for all employees.

Long-term needs

The training focuses on digital skill-building as well as more traditional technical ones. Ellis wants to build digital literacy and analytical prowess, especially since the two are growing more inextricably linked.

“We expect employees to learn new capabilities across our digital technologies, identify how best to apply them to their current role, and lead the implementation of the appropriate technology,” Ellis said. “As we roll out more

digital technologies, we anticipate the business will benefit from our digital literacy and continued emphasis on finding new efficiencies.”

Ellis believes new technology will have three major impacts on finance:

- Increased acumen from more powerful analytic tools. “This will enable better insight into data than ever before, providing a more real time view of the information.”
- A shift toward tool standardization which will help us move away from one-off, customized reports for specific departments. “Technology must simplify our processes. We need to be agile and ready to adopt the most cutting-edge technologies—such as new versions of software—leveraging the ‘as-a-Service’ cost model. This will help us meet our cost reduction goals.”
- Data visualization and natural language analysis will help us provide faster insights that are easier to understand. “This will improve the overall effectiveness of reporting performance results and metrics.”

In addition to digital and technical up-skilling, Verizon prepares individuals for management roles within the finance group. Technical expertise and strategic thinking are the fundamentals. “To really lead you need to be able to manage people—your management, your team, and your peers,” Ellis said.

In conjunction with their business partners in Human Resources, Verizon Finance provides employees with leadership training as soon as they enter into a management role. In addition, the finance team offers programs tailored for potential future finance leaders. “Annually, we have training cohorts focused on high potential managers and directors (separately) to help build their skill tool boxes and assist in strengthening their potential,” John Boylan, Director, HR Business Partner for Finance, said. “Working together with Finance, we are helping ensure the success of the next set of Finance leaders.”

Opportunities across different finance functions

Dawn Sieh, PhD and Manager on the Finance Talent Development team, explains the methodology: “Verizon has adopted a 70-20-10 approach to training where 70 percent is practical, on-the-job activities, 20 percent is coaching, networking, and mentors, and 10 percent is training resources such as classes and education specific to employee development,” she said. “The on-the-job activities are designed to present different perspectives of finance and of the company, including stretch assignments and projects.”

Many companies will rotate finance staff through different business units and functions. Verizon encourages rotations particularly through the Internal Audit department. Verizon believes the perspective is invaluable to its finance staff. “Internal Audit provides the opportunity for employees to see business operations that they would not otherwise get to work on,” Garrett said. “This enables the employees to have a deeper appreciation for how the business operates, while at the same time creating opportunities for networking with employees across the company.”

New trainings accessible across all of finance

With a far-flung finance staff that had myriad training needs and knowledge of finance digital tools and technologies, Verizon understands the need to offer an innovative, dynamic training. “The macro-level training that we’ve rolled out provides an overview of our digital technology capabilities and has specific use cases on how these technologies can actually be applied,” Ellis said.

To reach as many employees as possible, Verizon initially focused on locations with the highest density of employees. The training is delivered primarily through a tabletop, touch-screen computer interactive experience. It is hands on and personalized with only four to eight employees per session. To date, Verizon has held several hundred training sessions across seven of its key locations. And, about 85 percent of its employees completed the training in under 90 days. The groups are presented with videos to introduce the new software tools and the benefits they offer. Then, each group works collaboratively to solve problems on the shared screen; sometimes they “gamify” the lesson to create a friendly competition.

For employees outside of these locations, an online, self-paced version of the experience launched in early January 2019. All training sessions end with participants providing recommendations of how they can apply digital tools to their jobs. “We consolidate the ideas, share with management and digital experts, and follow-up to see how the implementations are going,” Ellis said.

AFP: Verizon finance’s trusted partner

A key partner in Verizon’s varied training and development efforts is AFP. “We need a training partner who could meet our finance training needs—from analysts to management, for professional certifications, covering soft skills as well as technical literacy—and AFP has what we need,” Altman said.

On top of a world-class certification for FP&A and CTP professionals, AFP offers on-line and in-person training

that delivered relevant, best-practices to Verizon finance team members. “AFP has a lot to offer so we wanted to get as many of our team members as possible into their program,” he said. “The goal is to get them all certified, but we recognize the value in just getting employees interested and engaged in new trainings—whether they end up with a certificate or not.”

What does success look like for Verizon? Ellis said he has two goals he hopes to accomplish by investing in the professional development of the finance staff:

- Streamlined, more efficient finance processes
- To be a strategic partner to the business through detailed analysis and insights for both internal and external clients

Investing in professional development is crucial to finance. “Investing in our employees demonstrates our commitment to their personal growth and to improving employee engagement and retention,” Ellis said.

Verizon recognized the challenge in recruiting and maintaining top finance talent. “Employees are looking for professional growth opportunities,” he said. “We have to get creative and continue to find new ways to keep them learning, both in a structured format as well as in a non-structured environment.”

Training, Ellis noted, not only provides key skills employees need, but it also is a strong retention tool. It’s a way to let our team know the value that management places on growing and flexing skills while on the job. “The training is always focused on development. It provides opportunities to learn from others, move into other areas of finance, and continuously strengthen fundamental skills” he said.

Ellis’ advice to other finance leaders who want to offer more training? “Start by determining what the organization is trying to accomplish?” he said. “You don’t want to have a solution trying to find a question; rather, figure out what the firm needs and then find the most appropriate solution to resolve it.”

He adds, “If you aren’t evolving and utilizing technology, then you are limiting yourself in what value finance employees can provide to the organization. This is an investment with an ROI.”

READY TO INVEST IN YOUR TEAM?

See how AFP can help you create a plan that takes your organization to the next level.



Leading EDGE

10 lessons from
leadership guru
Chip Colbert

JIM KAITZ

“Well, if there were an easy solution it wouldn’t have been brought to me, right? It would’ve been handled at lower levels of the organization.”

The above quote comes from my good friend Chip Colbert. A retired United States Army officer, Chip also is a leadership expert who will offer executive coaching advice at AFP 2019, this October in Boston.

I think Chip really nailed what is so challenging for every leader—whether you are a treasurer of a Fortune 500 company or an FP&A manager at a nonprofit. Leadership is hard; there are no easy problems.”

I recently interviewed Chip on AFP Conversations: Leadership Series podcast. I could talk to Chip all day about what he learned in the Army. But I wanted Chip to give listeners—and, now, readers—advice on how to be great leaders.

What that in mind, here are Chip Colbert’s top 10 tips to help treasury and finance professionals be better leaders:

Great leaders put the needs of the organization above their own.

“It can have kind of a draining effect when you’re always thinking about the needs of others before necessarily thinking about your own needs. But your people have to know that they are your top priority. When they know that they will respect and respond to you.”

Great leaders don’t have all the answers. In fact, they are open to good ideas—wherever they come from.

“I think there is a stereotype about leadership where the leader is sort of all-knowing, has all the answers, with a very hierarchical, top-down approach. But I actually found when the stakes are highest that good leaders are generally open to good ideas no matter where they come from. The best military units were really operating as teams in which every member of that unit felt empowered to contribute to the mission.”

Great leaders inspire trust.

“There’s an old saying: Without followers there is no leader. When I was back at West Point as a cadet I thought, ‘If I’m going to be the leader, I want my people to trust me. I want their loyalty.’ And I would argue that it’s very much a two-way street in that it starts with the leader. If you want that trust, if you want loyalty, then you need to demonstrate that to your people, and I think one of the best ways a leader can demonstrate that is by listening to their people and asking for input on different decisions, different situations, when the circumstances allow for that.

“There are always going to be times when, whether it’s because of time constraints or the risks are too great, that the leader’s just going to have to say, ‘This is what we’re doing.’ But in those situations in which the leader has some flexibility and you can take some time and elicit input from your people, I think the more you practice that the more you trust you engender and the more that gives the people in the organization license to offer up good ideas and kind of have a voice.”

Great leaders possess self-awareness.

“I think self-awareness is one of the most critical pieces of leadership because if you go into a meeting with your people and you’re trying to articulate a vision or the tasks that need to be accomplished and you walk out of the room thinking that the meeting went a certain way, and in reality everybody in the room is not clear on what it is you were trying to say or do... If you don’t have that self-awareness of how you present, how you show up in a room, how people hear what it is you’re trying to articulate, I think you’re setting yourself up for failure.”

Great leaders seek feedback—even constructive criticism.

“Being a leader means making it a habit of eliciting input from your people: ‘Hey, how did that meeting go? What did you think?’”

Great leaders are not afraid to hold difficult conversations.

“People generally tend to shy away from difficult conversations. To help with this, there are two rules that I’ve picked up along the way. First, correct the behavior, not the person. No ad hominem attacks, no generalizations. Second, address the issue immediately. A lot of times when you’re dealing with leaders they’ll say, ‘I’ve got this issue with this person at work and for the past six months they’ve been coming in late.’ My first question is, ‘Why has it been six months? The first day that person exhibited behavior that wasn’t consistent with your expectations as a leader, why didn’t you just pull that person aside?’ And the sooner you can address it the better because the research 100 percent clear: The most damaging thing you can do with a relationship is ignore that person.”

Great leaders correct in private and praise in public.

“If something goes well, somebody does something well, the organization has a success, you as a leader, should recognize that publicly. And that if there is something that needs to be addressed that’s negative, then you never do that in front of the group, and especially in front of a person’s peers. Always pull that person behind closed doors and have that conversation.”

Great leaders read people.

“This is where emotional intelligence really comes into play. Your ability to read people, especially reading the boss, is

critical and you need to determine a strategy for the best way to manage up or to lead up. And I think that’s a matter of understanding the person. If you work for a boss who’s very focused on data and analytics, and you have an opposing view that you want to present, then think in terms of, ‘How do I couch my argument in terms that’s most going to resonate with the boss?’ If you’ve got a boss who is very relationship-based, maybe you think about, ‘Who are my allies?’”

Great leaders are active listeners.

“I think active listening is one of the most underrated or underappreciated aspects of leadership because, it’s something that most people are generally pretty bad at. I would define active listening as being fully present in the conversation you’re in. I think that can be really hard for leaders because you’ve got an inbox that’s just constantly filling all day, you’ve got people that want to talk to you, you’ve got a device that is pinging. And so, the idea that when you engage with a member of your organization can be hard. Set your phone on silence or you ask somebody to hold your calls or whatever the environmental circumstances you need to adjust to allow you as the leader to be fully engaged to that conversation. You’re making eye contact; you’re asking clarifying questions as needed to make sure that you understand. Follow up with, ‘So what I heard you just say is... Do I have that right?’ If you do that as a leader, the people in your organization are going to feel that much more heard, they’re going to feel that much more energized.”

Great leaders aim for outcomes; they refrain from micromanaging.

“One of the most powerful ways to get buy-in from every member of the team is to give them a voice in the process of what is going to be accomplished. You may or may not have the ability to choose the what. But what you definitely have the autonomy to choose is the how. And I think as a leader the more you involve your team and the more you give them a voice in how they’re going to accomplish something the more ownership they’re going to take if they feel like it is part of their plan. It’s the opposite of micromanaging approach of, ‘This is what needs to be accomplished, this is how we’re going to do it, and I want you to do this by A, B, C and D. If you take a little bit more time at the outset and you come together as a team, say, ‘This is what it is that we need to accomplish. Let’s figure out the best way to do this and who’s going to own what pieces.’ The more you practice that, the more buy-in you get, the more ownership you get, I think the better organizational performance you will achieve.”

Hear the full interview on the AFP Conversations: Leadership Series podcast at www.AFPonline.org/Conversations.



JASON DOBBS AND KYLE OLOVSON, CTP

Seeing the FUTURE

Machine learning can drastically improve forecasting

Treasury professionals agree that accurate cash forecasting enhances their abilities and allows them to add value to their business. Benefits include properly funding distribution accounts, making timely decisions for investing or borrowing and maintaining target balances. When these things are done effectively, they help practitioners stay compliant with regulatory requirements, satisfy compensating balances to appease banking partners, and allow efficient operations for intracompany business partners. As we understand the benefits of cash forecasting, we also know there are struggles and welcome improvements to the ways we predict our cash flows.

It is irrational that humans refuse to relinquish more control to AI when running data analytics to produce cash forecast.

It can be difficult to centralize, digitize and standardize the required data from your ERP or other internal systems to begin to build an accurate forecast, but once you've leaped that hurdle, what do you do with the data? Payments can be easier to predict since you're the one with your finger on the button, but how can you use your historical transactional data to predict the trickier transaction types like receivables?

By using correlation and regression analysis, you can identify relationships among certain variables to act as guidance to predict future flows (e.g., if my sales go up, so will my collections). That, paired with time-series forecasting to help identify historical patterns, can put you in an adequate position. However, given the amount of human assumptions and lack of ability to forecast outside factors, the results of these legacy forecasting methods could leave you feeling frustrated. The truth is that there are simply too many variables for us mere mortals to contemplate—so wouldn't it be great if something existed that integrates all of our forecasting methods, as well as reliability and speed, all while being devoid of human bias? Enter artificial intelligence (AI).

AI and machine learning

AI is the concept that machines can perform outside the typical definition of what they can do. A subset of AI is machine learning, and in a treasury context, machine learning is software that is programmed to make decisions based on many inputs that can mimic behavior of a savvy treasury professional.

Another term used in this realm is predictive analytics (PA), which encompasses almost everything we've discussed so far. PA uses historical and real-time quantitative techniques to predict future events. It utilizes machine learning, data mining and modeling to perform these predictions, which takes the typical cash forecast to the next level.

Why AI?

Treasurers and CFOs will feel increasing pressure to adopt AI technologies, such as machine learning and big data analytics, to facilitate financial forecasts. But with the available software tools, enriched data, and, most importantly, the need for such initiatives, why isn't this something that everyone is doing? It is irrational that humans refuse to relinquish more control to AI when running data analytics to produce cash forecast.

When any structure is employed to design a forecast, there is always improvement over an unstructured funding amount based off sparse, random e-mails or bits of data. AI takes this structure to the next level. Humans have the ability to recognize just a few patterns. For instance, if a transaction called payroll appears every Friday for a certain amount, a human will pick up on it; remove the term payroll and put in a random sequence of letters and numbers and it will be overlooked. This is where a machine will be able to find the repetition in different attributes of the payment. Ultimately, we are looking to have AI pick up where humans can no longer recognize the patterns.

The recognition of certain patterns does depend on humans to get things started, and this poses a risk to the model. When a human designs the model, there can be biases that affect the outcome, sometimes latent and sometimes for good reason. There may be an intercompany funding transaction that occurs quarterly, but for the sake of analysis, a treasurer may put in place parameters restricting the computer model to only the receiving side of the intercompany. When the funds are received, a flurry of payments will likely go out the door to meet top priority obligations, a pattern a computer will recognize. The corporation's buildup of cash from operations will be unknown to this analysis, so the computer model will not be able to see how any of this

cash going out the door benefits the company. This analysis may have other uses, but this human behavior, though a requirement, depicts how the human setting the parameters for AI forecast analysis may result in a flawed model.

Using AI

Once your data is collected and you have your software, use machine learning to analyze the data. The technical formula for AI has only four main parts:

1. **Data clusters:** This will be grouping transaction data by companies, or accounts.
2. **Interval determination:** if you want the system to think in terms of days, weeks, months or quarters, or all of the above, you need to put these time intervals into the formula. This helps to find any seasonal trends or patterns that happen according to these time intervals.
3. **Weighing of intervals/clusters:** This determines how important a set of data is for the overall analysis. Typically, this starts as an even weight (a retail company doesn't experience all of its growth from Black Friday), but will evolve once insight is gained from where certain trends that are derived from a preliminary analysis predict the growth of a business.
4. **Limit calculations:** As a treasurer may know his business better than a machine, it is best to teach some of the "exceptional" events to the machine, so it does its job well. If you limit the focus of the analysis to the typical business activity and remove outliers such as a capital campaign funding receipt, the machine will be better at predicting typical business trends.

Now that you have taught the machine all that you know, the analysis will pull valuable insights. But this lesson does not stop here. Some very advanced programs will use the trends to find more trends and repeat this process to build an optimal business model. Most of the software available will present a resulting trend analysis and use predictive analytics to forecast a company's activity. You can use the insights derived from this analysis to

drill deeper into your data by redefining the four parameters above. If you notice a relatively flat trend, but you know one account in a company has large balance fluctuations, do a separate analysis on that individual account as the data cluster. Or if you do not see the spike in business from Black Friday, make sure you set your intervals to the day or week, not quarter or year.

Further use cases

Aside from the core benefits already discussed regarding a quality forecast, we need to think of extraneous benefits when we have the power of AI in our office. In addition to identifying typical historical trends, using AI is excellent at identifying transactional patterns, which is useful for isolating transactions that do not align with those patterns. Many times, these atypical transactions are business as usual that can be explained by a quick call to a colleague in procurement, but other times they are fraudulent or mistakes that somehow made it through your approval workflow. When your forecasting is operating as it should be, these outlier transactions are easily identified.

In addition to pattern recognition, AI and machine learning are powerful tools for identifying relationships between data sets. For instance, if you're a global retailer that needs cash on hand, you'll want to choose an optimal amount to keep on premises. A decision to keep too much cash on-hand might not be an issue if it happens at a few stores, but if the mistake is being made globally, we could be talking about large sums. With machine learning, you can input data such as the geographic locations of your stores and the products being sold at each to see if the amount of cash on hand is warranted. These complex relationships would be near impossible to predict as an individual, but machine learning makes it possible.

Jason Dobbs, senior manager, and Kyle Olovson, CTP, senior consultant, are experts in corporate and international treasury at Actualize Consulting. For more information visit actualizeconsulting.com. They can be reached at jdobbs@actualizeconsulting.com or kolovson@actualizeconsulting.com

Alternative ROUTES

Treasurers are changing their operations to obtain financing

ANDREW DEICHLER

Washington, D.C. – New research from the U.S. Chamber of Commerce revealed that although financing is generally available, many corporate treasurers have been forced to change how they operate to obtain it.

In a recent conference at the Chamber's headquarters, Sparky Zivin, partner with Brunswick, provided some analysis of a new survey by the Chamber's Center for Capital Markets Competitiveness on corporate treasurers' views about the state of financing. Fully 58 percent of the 300-plus treasurers polled reported that their ability to manage cash operations has improved. Additionally, 45 percent said that their access to short-term credit has expanded, while another 31 percent reported no change.

However, while banks offer a wide range of services available to corporates, about a third of corporate treasurers polled believe access to these services has become more difficult. In particular, this has been observed in mid-sized companies," Zivin said. "About 36 percent of mid-sized companies say it's actually now more difficult to get access to the full range of services."

Corporate treasurers cited bank regulations as the major impediment to their ability to access capital. To address these challenges, many companies are taking unexpected actions to manage cash operations. Again, it's been the mid-sized companies doing the most to manage difficulties they've experienced in their banking relationships.

Solving the Challenges

In terms of actually solving these challenges, treasurers see roles for all of the players in the system; including the government, banks and themselves. For regulators, two-thirds say they would support recalibrating capital requirements, particularly when it comes to lending to small businesses. From their banking partners, treasurers are looking for a wider range of offerings, modern technology and long-term relationships that they can count on. They are making these demands because of the changes they've had to make to their businesses.

How have they had to change? Fully 45 percent are absorbing more costs to do business. And 28 percent said



“Treasurers in the United States are really the risk managers of the corporation. They’re protecting Main Street and looking for growth opportunities and finding those within the organization.”

they’ve passed costs onto their customers. “So not only are we seeing these impacts affecting the banking industry; we’re seeing the banking customers being affected, and that is trickling out to the entire economy,” Zivin said.

Lastly, 27 percent of practitioners are reducing the number of banks they work with. Since they no longer have the luxury of working with a large number of providers, they are looking for long-term relationships from their banks and are asking more from them.

In a follow-up panel discussion, Tom Hunt, CTP, AFP’s director of treasury services, noted that survey revealed how much corporate practitioners are called upon to safeguard the organization as a whole, even if it means taking unexpected actions. “Treasurers in the United States are really the risk managers of the corporation,” he said. “They’re protecting Main Street and looking for growth opportunities and finding those within the organization.”

Perhaps then that is why treasurers surveyed were overall more positive about their own outlook than the outlook for the global economy. The majority (62 percent) expect

their own financial performance to improve over the next 12 months, even as more than a third of them expect the economy to worsen, primarily due to interest rates and trade-related issues. “They’re much more optimistic about their company, more so than the global environment, or the environment they operate in,” Hunt said.

Neal Blinde, treasurer for Wells Fargo & Company, didn’t find the data in the survey particularly surprising, as the data is consistent with what is typically seen in the later stage of an economic cycle after a sustained period of stability. “What we’re observing in the banking space is that the access to credit is quite good, and that’s both directly from banking institutions and from the capital markets,” he said. “Generally when I speak to my peers—we all want to do more lending in this environment. The cost is quite good, and it’s a good time to be active. But I think the other side of that equation is, when we look at that downward trajectory on the economic outlook, there is some caution on the part of our customers entering into new financing.”

Hunt agreed that some of the apprehension may stem from treasurers looking at the bigger picture. “I think it’s looking at more of the global aspects and the uncertainty—things like Brexit, Venezuela and not really knowing what the business prospects are going to be,” he said. “Treasurers retrench to safety, and safety is liquidity. Liquidity is balance sheet management. So it’s a common theme we continue to see.”

Perhaps the most surprising revelation in the survey is the disparity between treasurers’ outlook for their own organizations and their projections for the overall economy. Michael Lenz, corporate vice president and treasurer for FedEx, believes that recent events have led businesses to build in flexibility and contingency planning to address a variety of economic circumstances. “Certainly, 10 years ago, our company had to make some significant adjustments and adapt to the economic downturn,” he said. “As we’ve grown out of that in the last 10 years, we certainly have that in the backdrop of various strategies and executions so that we’re positioning ourselves to be successful under a range of potential economic scenarios.”



FP&A®

**Certified Corporate
Financial Planning &
Analysis Professional**

AFP is excited to recognize the most recent class of Certified Corporate Financial Planning & Analysis Professionals.

The Certified Corporate FP&A Professional designation defines universal principles and standards of practice used in performing financial planning & analysis job functions. Those who earn the FP&A credential have demonstrated their understanding of those complex processes, tools and best practices and are recognized as well-positioned to provide insight to strategic business decisions at organizations.

Candidates of the Certified Corporate FP&A Credential must meet education and experience requirements in addition to passing two rigorous examinations.

The following individuals should be congratulated for their achievement and praised for reaching this level of finance professionalism.

Justin Abramovitz, FP&A
Financial Analyst
RE/MAX International, Inc.
Denver, CO
UNITED STATES

John Adams, CTP, FP&A
Regional Manager - Finance
Oracle
Minneapolis, MN
UNITED STATES

Kevin Ahrens, FP&A
Manager FP&A
Verizon Wireless
Bernardsville, NJ
UNITED STATES

Adedoyin Akande, FP&A
Manager
Verizon Communications, Inc.
Basking Ridge, NJ
UNITED STATES

Michael Alexander, FP&A
Manager, FP&A
Evanston, IL
UNITED STATES

Mark Audigier, FP&A
Director
Chatham Financial Corp
Kennett Square, PA
UNITED STATES

Saachi Banger, FP&A
Senior Finance Analyst
Travelport
Dubai
UNITED ARAB EMIRATES

Horacio Barrera, FP&A
Senior Financial Analyst
Oracle
San Antonio, TX
UNITED STATES

Jessica Blackburn, FP&A
Thermo Fisher Scientific Inc.
St. Louis, MO
UNITED STATES

Emily Boscheratto, FP&A
Senior Financial Analyst
Comcast Cable
Communication
Royal Oak, MI
UNITED STATES

Kevin Buckley, FP&A
Senior Finance Manager
Marriott International, Inc.
Bethesda, MD
UNITED STATES

Christopher Burton, FP&A
Consultant
FTI Consulting, Inc.
New York, NY
UNITED STATES

Harshit Chatur, CTP, FP&A
Director - Finance
NRG Energy, Inc.
Katy, TX
UNITED STATES

Jiayun Chen, FP&A
Director of Reporting &
Analysis
Franklin, TN
UNITED STATES

Dimitry Cherney, FP&A
Marsh & McLennan
Companies Inc.
New York, NY
UNITED STATES

Tracey Clenott, FP&A
Verizon Communications, Inc.
Lake Mary, FL
UNITED STATES

Michael Cockburn, FP&A
Finance Analyst Upstream CP
Shell International B.V.
Aberdeen
UNITED KINGDOM

Christopher Coon, FP&A
Director of Analysis
1-800 CONTACTS, Inc.
Draper, UT
UNITED STATES

Aaron Crowe, FP&A
Senior Financial Analyst
Asurion
Nashville, TN
UNITED STATES

Patrick Davis, CTP, FP&A
CFO
Superior Auto
Fort Wayne, IN
UNITED STATES

Brandy Davis, FP&A
Harsco
Owasso, OK
UNITED STATES

Ivo de Rooij, FP&A
Business Controller
Wartsila
Winterthur
SWITZERLAND

Robert Dia, CTP, FP&A
Montclair, NJ
UNITED STATES

Justin Diaz, FP&A
Senior Financial Analyst
Westgate Resorts
Apopka, FL
UNITED STATES

Adam Dudic, FP&A
United States Steel
Corporation
Kosice - Saca
SLOVAKIA

Lindsey Dvorak, FP&A
Oracle Corporation
Boulder, CO
UNITED STATES

Dennis Easter, FP&A
Business Application
Consultant
Algorithm Inc
Dublin, OH
UNITED STATES

Amr Elgawaly, FP&A
Manager - Finance Systems &
Performance
Dubai
UNITED ARAB EMIRATES

Heng Fang, FP&A
Financial Analyst
UNITAS
Los Angeles, CA
UNITED STATES

Lu Qi Gan, FP&A
Senior Analyst
Johnson & Johnson
Singapore
SINGAPORE

Eric Glaze, CTP, FP&A
CFO
Mid-American Machine &
Equipment, Inc.
Garnett, KS
UNITED STATES

Fiona Eudora Gomez, FP&A
Global Planning & Appraisal
Lead P&T
Shell International B.V.
Den Haag
NETHERLANDS

Bryan Gough, FP&A
Global Broking - Finance
Business Partner
Brooklyn, NY
UNITED STATES

Gary Graebner, FP&A
Verizon Communications, Inc.
Alpharetta, GA
UNITED STATES

Alan Grandy, CTP, FP&A
Treasurer
Chine Drive School Council
Toronto, ON
CANADA

Erich Grundy, FP&A
Plano, TX
UNITED STATES

Matthew Gullick, FP&A
Senior Financial Analyst
Partners Surgical
Houston, TX
UNITED STATES

Mircea Hepes, FP&A
Senior Financial Analyst
Thermo Fisher Scientific
Madison, WI
UNITED STATES

Jeremy Hollis, FP&A
Senior Director, Corporate &
Development Finance
Marriott Vacations Worldwide
Corporation
Orlando, FL
UNITED STATES

Qinxin Hong, FP&A
Senior Financial Analyst
Verizon Communications, Inc.
Culver City, CA
UNITED STATES

Keith Hoover, FP&A
Senior Financial Analyst
Thermo Fisher Scientific
Pittsburgh, PA
UNITED STATES

Xiankui Hu, CTP, FP&A
Professor of Finance
Arkansas State University
Jonesboro, AR
UNITED STATES

Mark Hutchinson, FP&A
Director of Financial Planning
& Analysis
STAR Financial Bank
Fort Wayne, IN
UNITED STATES

Eric Irani, FP&A
Team Lead, Treasury and FP&A
Shore Financial Services, Inc.
Troy, MI
UNITED STATES

Thomas John, FP&A
Senior Financial Analyst
Genoa
Renton, WA
UNITED STATES

Jane Kellerhals, FP&A
Senior Manager-Risk
Management
Verizon
Gillette, NJ
UNITED STATES

Jerald Kerlin, FP&A
Marsh & McLennan
Companies Inc.
Seattle, WA
UNITED STATES

Tim Kiernan, FP&A
Senior Financial Analyst
Tradebe Environmental
Services
Meriden, CT
UNITED STATES

Michael Kim, FP&A
Finance Business Partner
Oracle
Leesburg, VA
UNITED STATES

Michael Krichevsky, FP&A
FP&A Manager
Cambridge Associates
Newton, MA
UNITED STATES

Adhiyanti Kusumajaya, FP&A
Sugar Land, TX
UNITED STATES

Penny LaFleur, FP&A
Senior Lead Analyst
Chick-fil-A, Inc.
Atlanta, GA
UNITED STATES

Robert Lagen, FP&A
Finance Manager
FedEx Corporation
Cordova, TN
UNITED STATES

Lisa Lamberth, FP&A
Manager - FP&A, Finance
Operations
Verizon Communications, Inc.
Laurel, MD
UNITED STATES

Matt Leid, FP&A
Senior Financial Analyst
Nautilus Inc.
Vancouver, WA
UNITED STATES

Daniel Liliac, CTP, FP&A
Corporate Finance Manager
ProAssurance Corporation
Hoover, AL
UNITED STATES

Fang Lin, FP&A
Financial Analyst
Chassis, Inc.
Sterling Heights, MI
UNITED STATES

Trina Litwin, FP&A FP&A Analyst World Vision International Monrovia, CA UNITED STATES	Nikita Miller, FP&A Director of Financial Planning & Analysis The Kresge Foundation Redford, MI UNITED STATES	Khoa Phan, FP&A Financial Analyst, FP&A Thermo Fisher Scientific Inc. Ottawa, ON CANADA	Ahmer Sharif, FP&A Consultant Oak Lawn, IL UNITED STATES	Wesley Willetts, FP&A Senior Finance Manager Stars Group Douglas UNITED KINGDOM
Ruiying Liu, FP&A Financial Analyst Thermo Fisher Scientific Inc. Shanghai CHINA	Hesham Mokhiemer, CTP, FP&A Head of Finance Riyadh SAUDI ARABIA	Aaron Poole, FP&A Mary Kay Inc. Allen, TX UNITED STATES	Dustin Silvestri, FP&A Senior Treasury Analyst Sun Chemical Corporation Cincinnati, OH UNITED STATES	Jason Woon, FP&A Senior Manager KPMG LLP Seattle, WA UNITED STATES
Siddhartha Mandal, FP&A Lubes Analyst- R&A DS GC Aviation Shell International B.V. Chennai INDIA	Charles Mussallem, FP&A Spirit Airlines Inc. Miami, FL UNITED STATES	David Poppie, FP&A Division Finance Manager CenterPoint Energy, Inc. Minneapolis, MN UNITED STATES	Ryan Sledge, FP&A Executive Reporting Manager Marathon Oil Corporation Houston, TX UNITED STATES	Walter Wozniak, CTP, FP&A Assistant Treasurer Ohio State University Columbus, OH UNITED STATES
Senthilkumar Manickavachakam, FP&A Manager Financial Planning and Analysis Graybar Electric Saint Louis, MO UNITED STATES	Gene Mussel, FP&A Operations Manager Plastic Components Inc Germantown, WI UNITED STATES	Jeremy Porfilio, CTP, FP&A Supplier Management Analyst Toyota Motor Sales, U.S.A. Inc. El Segundo, CA UNITED STATES	Efrain Soto, FP&A Manager-FPA Verizon Dublin, PA UNITED STATES	Cindy Yost, FP&A Senior Manger, FP&A Patheon Pharmaceuticals Durham, NC UNITED STATES
Joseph Mansey, FP&A Marsh & McLennan Companies Inc. Hoboken, NJ UNITED STATES	Michael Neese, FP&A Financial Consultant Dominion Energy, Inc. Layton, UT UNITED STATES	Raja Ramachandran, FP&A Global Business Development Manager Alliance One International Cary, NC UNITED STATES	Manoj Sukumar, FP&A Director - FP&A Taulia Inc. Sunnyvale, CA UNITED STATES	Chun Ho Young, FP&A Senior FP&A Manager Verizon Communications, Inc. Hong Kong HONG KONG
Robert Mansker, FP&A Manager Financial Metrics Washington Gas Light Co. Fairfax, VA UNITED STATES	Yen Ling Neo, FP&A Assistant Manager Dimensions Data Singapore SINGAPORE	Anusha Raman, FP&A Senior Manager, FP&A FireEye, Inc. Milpitas, CA UNITED STATES	Ben Swinney, FP&A VP - Planning & Analysis Texas Security Bank Flower Mound, TX UNITED STATES	Diana Zaiantz, FP&A FP&A Manager Whataburger, Inc. Adkins, TX UNITED STATES
Manuel Manzoni, FP&A Senior Financial Analyst Novelis Inc. Gockhausen SWITZERLAND	Garret Neville, FP&A Associate Treasury Analyst Dart Container Corporation Mason, MI UNITED STATES	Teresa Ritchie, FP&A Land Controller Gehan Homes Sherman, TX UNITED STATES	Jacek Szduj, FP&A R&A Business Analyst Shell International B.V. Krakow POLAND	
Kyle Martin, FP&A Operations & Finance PatentDive, Inc. New Orleans, LA UNITED STATES	Derek Niese, FP&A Finance Director PSG Sims, NC UNITED STATES	Simeily Rodriguez, FP&A North America Commercial Controller Dell Inc. Arraijan PANAMA	Vadim Teselkin, CTP, FP&A Financial Analyst Hygiena Ventura, CA UNITED STATES	
Gins Mathew, FP&A Specialist Financial Analyst Oracle Bengaluru INDIA	Raffy Ouzounian, FP&A Verizon Communications, Inc. Hilliard, OH UNITED STATES	Israpong Rujisampan, CTP, FP&A Treasury Assistant Manager Amway Corp. Bangkok THAILAND	Alex Thomas, FP&A Senior Financial Analyst FedEx Corporation Cordova, TN UNITED STATES	
Spencer Mawhar, FP&A Financial Analyst Hawaiian Airlines, Inc. Honolulu, HI UNITED STATES	Roman Ovchinnikov, FP&A Marsh & McLennan Companies Inc. London UNITED KINGDOM	Souny Sakprasit, FP&A Consultant Financial Planning & Analysis Verizon Alpharetta, GA UNITED STATES	Dustin Traylor, FP&A Senior Financial Planning Analyst Builders Mutual Insurance Company Raleigh, NC UNITED STATES	
Rusty McHan, FP&A Senior Director, FP&A Warrior Met Coal Brookwood, AL UNITED STATES	Carlos Padron, FP&A Lead Analyst, Performance Management Equinor ASA Katy, TX UNITED STATES	Shailendra Sapra, CTP, FP&A Executive Director UBS Westfield, NJ UNITED STATES	Hsuan-Chih Tseng, FP&A Business Analyst Advisian Kaohsiung TAIWAN	
Rob Mellon, FP&A Finance Manager Thermo Fisher Scientific Inc. Waltham, MA UNITED STATES	Yogesh Paliwal, FP&A Manager Mitsui & Co (Asia Pacific) Pte Ltd Singapore, SINGAPORE	Scott Schlecht, FP&A Marsh & McLennan Companies Inc. New York, NY UNITED STATES	Oscar van Blaaderen, CTP, FP&A Planning & Appraisal Manager Innovation and R&D Shell International B.V. Rijswijk NETHERLANDS	
Mario Millan, CTP, FP&A Treasury VP Dolex Dollar Express, Inc. Mansfield, TX UNITED STATES	Peter Panos, FP&A Associate Director University of Utah Salt Lake City, UT UNITED STATES	Rashida Shakir, FP&A Analyst Mission Foods Irving, TX UNITED STATES	Jordan Von Almen, FP&A Senior Project Manager - Financial Analysis & Reporting Southern California Edison Rosemead, CA UNITED STATES	



Okay Computer

IRA APFEL

Back in 2017, I wrote about the rise of artificial intelligence for this magazine. My premise was simple: AI is coming, but it won't take our jobs if we focus our efforts on strategic activities.

Turns out my AI future arrived in 2019.

Startups like Automated Insights now can turn structured data into news articles; the venerable Associated Press is a customer. Meanwhile, Bloomberg News uses AI to create articles about company quarterly earnings, and Yahoo uses AI for fantasy sports content.

Personally, I like to use AI technology to transcribe podcasts and other interviews I record. My current favorite software comes from Otter. You just upload an audio or video file and Otter turns the recording into a transcript—first 600 minutes free.

There are speedbumps, of course. An AI-generated quarterly earnings story might be incomprehensible if some of the data used to fuel the story is unstructured or just poor quality. And Otter sometimes incorrectly

hears words. For example, it will spell FP&A as FPNA. But this is a minor glitch that I can edit.

Notice how I don't sound particularly worried about AI? I'm a journalist by training, after all, and my job has traditionally consisted of recording people, transcribing their notes, and then writing an article. Why am I so unconcerned?

Because AI is doing the grunt work that I and every journalist dislike. Nobody likes transcribing notes. And nobody likes writing routine, paint-by-numbers stories like a quarterly earnings report.

AI lets me focus on the strategic, value-added stuff like collaborating with AFP colleagues on long-form guides, writing a script for a podcast, or figuring out interesting questions to ask interview subjects.

So, treasury and finance professionals, I am reporting to you from our AI future. And believe me when I tell you that you have nothing to fear about robots taking your jobs.

Raising deposits?

Let us connect you to motivated investors.

When you choose Fidelity Capital Markets as one of your certificate of deposit (CD) underwriters, we'll help you connect with an extensive retail investor platform, which allows customers to easily access and purchase your CDs directly on Fidelity.com's award-winning platform.*



Call **800.343.2670**

or visit capitalmarkets.fidelity.com/CDUnderwriting



*Investor's Business Daily® Best Online Broker 2016, 2017, and 2018. Barron's Best Online Broker 2016, 2017.

StockBrokers.com Best Online Broker 2018.

Kiplinger's Best Online Broker 2016, 2017.

The Fidelity Investments and pyramid design logo is a registered service mark of FMR LLC.

Fidelity Capital Markets is a division of National Financial Services LLC, Member NYSE and SIPC.

© 2019 FMR LLC. All rights reserved. 555140.27.0

COMPETE ON A GLOBAL SCALE WITH THE RIGHT INSIGHTS TODAY.



CORPORATE & COMMERCIAL BANKING | In order to stay ahead in today's global marketplace, you need a team that can help you prepare for what's next. That's why we're here to help you develop strategies to manage international cash flow, to mitigate market and currency risks, and to optimize payment and collection processes. Because streamlining your cross-border operations starts today.

For more information, please visit pnc.com/international.

FOREIGN EXCHANGE | TRADE FINANCE | INTERNATIONAL CASH MANAGEMENT | TRADE SERVICES | PNC BANK CANADA BRANCH | M&A ADVISORY

PNC and PNC Bank are registered marks of The PNC Financial Services Group, Inc. ("PNC"). Bank deposit, treasury management and lending products and services, and foreign exchange and derivative products (including commodity derivatives) are provided by PNC Bank, National Association ("PNC Bank"), a wholly owned subsidiary of PNC and **Member FDIC**. Foreign exchange and derivative products are obligations of PNC Bank, National Association ("PNC Bank"), **Member FDIC** and a wholly owned subsidiary of PNC. Foreign exchange and derivative products are not bank deposits and are **not FDIC insured**, nor are they insured or guaranteed by PNC Bank or any of its subsidiaries or affiliates. Lending, leasing and equity products and services, as well as certain other banking products and services, require credit approval.

In Canada, PNC Bank Canada Branch, the Canadian branch of PNC Bank, provides bank deposit, treasury management, lending (including asset-based lending) and leasing products and services. Deposits with PNC Bank Canada Branch are **not** insured by The Canada Deposit Insurance Corporation or by the United States Federal Deposit Insurance Corporation.

Investments: Not FDIC Insured. May Lose Value. No Bank Guarantee.

©2019 The PNC Financial Services Group, Inc. All rights reserved.

CIB TM PDF 0319-0143-1189101

