EXECUTIVE INSIGHT SERIES

November 2019

CAPSULE II

The Treasurer’s Need To Know

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TREASURERS, EMBRACING REAL-TIME PAYMENTS' BRIGHT FUTURE — AND GIRDING FOR DARK DAYS, TOO

It's said that change is the only constant in life.

So it is with business, with payments, with the ways we pay —when and even where ... and certainly how.

The ripple effects of the digital age have touched the ways firms manage cash, and by extension the ways treasury professionals approach their day-to-day activities in managing that cash.

In the latest iteration of the "Executive Insight" series, executives at Citigroup take stock of the treasury function evolution from a somewhat predictable, visible monitoring of cash positions on a daily or weekly basis, marked by batch processing ... to today's necessity of managing cash in near-real time, sometimes pressure-cooker situations.

The overarching themes that cut across these interviews: The speed of payments is, of course, increasing. The scope of payments? Broadening, too — across borders.

The treasurer's role has become one that needs to be proactive, and strategic.

The age of bankers' hours is officially over.

Among the Highlights:

As faster payments schemes proliferate around the world — there are more than 50 separate initiatives underway globally at last count — businesses must adjust to the notion of cash settling across business coffers several times a day. And as Citi Treasury Advisory Group Head Ron Chakravarti tells Karen Webster, the shift has been one from knowing what's in the accounts, to knowing what will be there, and when.

The change is coming, and can be anticipated, across C2C to B2C to B2B ... providing at least some sort of roadmap.

You certainly need a map, too, as payments are increasingly crossing borders and time zones, and FX rates suddenly become par for the course.

Amit Agarwal, global head of cross-border payments at Citi, takes stock of the globalization of supply chains (geopolitics notwithstanding). Here, technology (through APIs and through FI/FinTech partnerships) is a boon that helps firms expand their reach into new markets — integrating payments and information offering transparency into where funds are flowing.

But with the push into new markets, into new types of transactions where eCommerce and B2B are always on, Anupam Sinha, global head of domestic payments and receivables at Citi, says banks must navigate the demands of separate, far-flung markets.

Banks must not only respond to changing customer demands, they must also anticipate future needs — all amid government-led and private instant payment offerings.

Looking toward the future also means acknowledging you don't know what you don't know. For treasury professionals, that means getting ready for the risks that lie ahead with real-time payments. There can be literal dark days ahead.

As Mark McNulty, managing director, head of clearing and FI payments at Citi, states, "The risks of running a corporation, and specifically of executing a number of financial functions, are greater than they ever have been before." The balancing act, as always, will be one between convenience and security for end users — and knowing where the external threats lie. He lays out a number of lines of defense.

To adapt a line from Bob Dylan, the treasurers' times are a-changin.'

Read on to see where those changes might lead.

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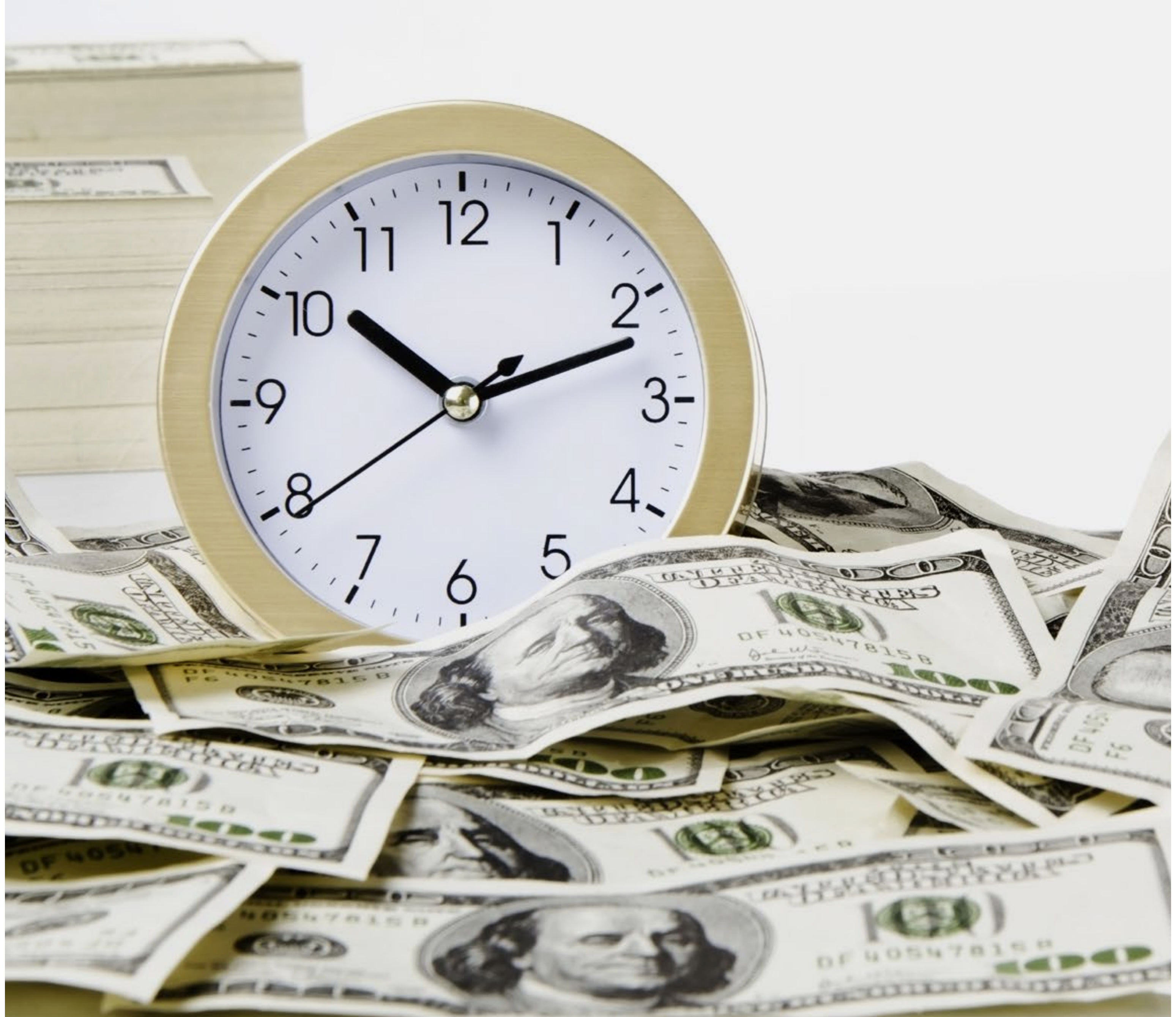
Treasury management is becoming a job done in real time, as business is done across borders and time zones. Ron Chakravarti, Treasury Advisory Group head at Citi, tells Karen Webster that gaining insight into how much cash is there — and where it is — requires more than just infrastructure in an “always on” economy.



Citi On Treasury’s Real-Time Reality

Not all that long ago, treasurers would take stock of cash positions at the start of the day ... to the best that they could, since some banks might not report positions daily. Maybe not even weekly.

Liquidity and cash investment plans would be made by 10 a.m.

Business ended at 5 p.m. and wrapped up for the week on Fridays.

Things have changed of course, because the very nature of payments has changed, and is changing. Batch processing, increasingly, is giving way to real-time payments and processing throughout the day. As a result, treasurers must grapple

All of this is leading toward an inevitable shift to **an always-on economy,** though we are at the **early stages** of that shift.

with the notion (and the needs) of cash crossing accounts many times a day. Cash management becomes a continuous process, throughout the business day.

And now we are verging toward a fully real-time world. Knowing where and how much cash there is across various legal entities, countries and currencies is crucial.

It becomes imperative not just to have access to real-time payments as an actual payment option (and to, perhaps, finally kill the paper check) but to also have access to real-time information and automation.

To that end, said Ron Chakravarti, Treasury Advisory Group head at Citi, the role of the treasury management team in optimizing cash on a day-to-day basis is changing as real-time operations (and payments) increasingly command attention.

Putting Change in Context

As Chakravarti told Karen Webster in a PYMNTS podcast in the "Treasurer's Need to Know" series, there are several forces at work, impacting businesses and also the ways that treasurers and their teams manage cash, liquidity and foreign exchange.

On a grand scale, those forces include uncertainties over trade (illustrated by ongoing tariff spats), and even changes in tax policies across different regions across the globe, all of which are shifting supply chains.

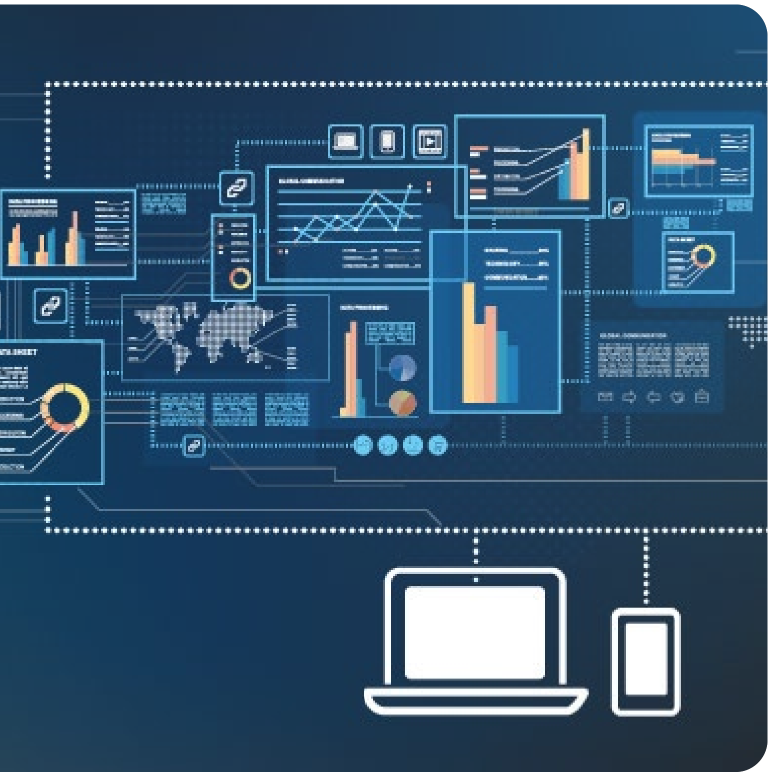
There's secular change afoot too, he noted, rooted in just how we buy and sell, and the infrastructure that underpins that commerce in the first place. The growth in eCommerce transcends all industry verticals. Technology is driving the change as suppliers, buyers and end customers are all starting to interact through real-time interfaces and application programming interfaces (APIs). As far as real-time payments are concerned, this is setting the stage — and of course there is no shortage of instant payment schemes proliferating around the world.

"All of this is leading toward an inevitable shift to an always-on economy," he told Webster, "though we are at the early stages of that shift."

Indeed, the broader embrace of real-time payments, and real-time management of treasury functions, will take a little time, as savvy observers have prognosticated.

But as this happens, truly managing cash in real time will require a shift from just knowing how much cash there is to predicting how much there will be … and automating decisions on how and when to take action.

"By and large, we are not yet in a 'world of real-time treasury'," Chakravarti said. Many companies,



even enterprises multinational in scope, are still putting systems in place to cement visibility and control of cash that spans multiple jurisdictions.

Think of it as a curve, perhaps one that will steepen rapidly, in real-time treasury adoption, he said, driven by changes in the way businesses and firms interact with one another in a more instant/real-time manner.

(Citi's own efforts to streamline treasury among its client base have been gaining traction. As reported at the end of last month, since the launch of APIs through CitiConnect, Citi has estimated that its corporate treasury APIs and platforms have processed more than $26 billion for enterprise clients.)

As Chakravarti noted in his discussion with Webster, the impact for treasury of shift to real time depends on the actual types of transaction at hand.

"When companies start paying consumers things like their claims payments, that starts changing things a bit, but it's still not very big in terms of how much money is moving around," he told Webster. "As more businesses start selling to consumers directly, instead of through distributors, and start collecting directly, that starts to get 'big' … it's a large chunk of money. And when businesses start transacting with each other, well, that's very big."

All of this means that the needle will move from C2C to B2C to B2B along the continuum of real time payments adoption, with ripple effects on cash management.

We'll be moving to a realm where the treasurer's week does not end at 5 p.m. on Friday, he said. Money will move during the weekend, as suppliers get paid or firms collect money from their customers. He pointed to the Treasury Diagnostics survey, which showed that digitization

> As more businesses start selling to consumers directly, instead of through distributors, and start collecting directly, **that starts to get 'big'.**

… that agility in thinking about finance and agility in thinking about technology **is as important as getting the budget.**

is driving change in companies' business models, and that treasurers see digitization within the treasury department as critical to the transformation they need to make.

The Challenges

In treasurers getting ready for the real-time world, budgets are a challenge and so are people skills, said Chakravarti.

But, as digitization changes business models, investment is critical, with an eye toward the impact of real-time payments on treasury management.

Budgeting for those investments can be a challenge, noted Webster, particularly if they do not wind up boosting a firm's top line. Or if it's not clear how they will.

In terms of getting that funding, said Chakravarti, the treasurer needs to be able to articulate to the CFO why financial processes are changing, along with the business, and also needs to work in tandem with the

technology staff to get the right infrastructure in place.

Staff involved need to become knowledgeable about how financial services and cash management are changing.

Against the inevitability of real time, he said, one question that frequently comes up from treasurers focuses on how they can prioritize their departmental transition.

The answer, Chakravarti said, depends on where those firms are in their journey.

"You can break it into layers," he said. As the base, treasury needs to complete the journey toward efficiency, making sure that functions such as liquidity management and accounts receivable and payable are centralized and streamlined through technology. Companies that are largely there should focus on the next layer, building to what he termed "smart treasury" — connecting data to machine learning and artificial intelligence (AI), that enables better decision-making, moving from analytics to reliable predictions. And equipped with that, toward high automation of operational treasury. All of this prepares us for the third layer, which comes as we move toward a fully integrated treasury operation, operating seamlessly with the business, supply chains and banks with high security.

"If we go from a world where value is exchanged on an end-of-day basis to, perhaps, a future of this happening on a minute-by-minute basis," he told Webster, "that agility in thinking about finance and agility in thinking about technology is as important as getting the budget."

Citi On Simplifying Cross-Border Payments

The buyer is in Canada. The seller is in Singapore. The transaction wends its way across borders, in the middle of the night, settling instantly.

In the always-on, 24/7/365 economy, payments that circle the globe should conceivably be as simple as those made in a peer-to-peer (P2P) transaction. The reality? Well, cross-border payments are fraught with friction, especially when it comes to business-to-business, or B2B.

Amit Agarwal, global head of cross-border payments at Citi, told Karen Webster in the latest installment of the "What Treasurers Need to Know" podcast series that the world is becoming flatter and supply chains are getting longer, stretching across borders and currencies.

Technology, improvements in logistics and, of course, new innovations in payments have all played a role in bringing trade to an ever-broadening global stage.

Agarwal noted that trade is becoming global at an accelerating pace — notwithstanding the headlines centered on trade wars between the United States and China.

Macro Trends as Tailwinds

Agarwal pointed to macro trends as tailwinds, including the entrenchment of social media, digital advertising, the lower cost of technology and a growing middle class evident in several emerging economies around the world.

Only 20 years ago, eCommerce was an unheard-of notion. “Today, everyone has a mobile phone,” he said, noting that as much as 35 percent of the world population wields a smartphone. And, he added, as much as 50 percent of digital commerce is done through mobile means, and is expected to hit 70 percent in just a few short years. Alibaba racked up billions of dollars in sales just a few minutes into its Singles Day held earlier this year.

“Technology, increasingly, is enabling the current model of cross-border trade,” said Agarwal.

Disposable incomes have grown dramatically over the past several years, he remarked, and the middle class that spans countries across the globe is spending $25 trillion dollars annually and will spend an additional $30 trillion by 2030. China stands as the largest market, with marked growth seen in Africa, the rest of Asia and elsewhere.

Against that backdrop, to enable the seamless flow of commerce across consumers, companies and supply chains, Agarwal said, payments need to seamless, too. He told Webster that no matter the transaction — whether B2C, C2B or B2B — it is of critical importance for supply chain ecosystems to ascertain that the full value of payments will come, without delay, into accounts once transactions are complete.

“This boils down to an efficient cash conversion cycle, to efficient working capital management, and also minimizes the need for companies to borrow money,” Agarwal said. That transparency is on offer in domestic payments, and less so for cross-border payments.

The Challenges of Cross-Border

Agarwal noted that cross-border payments carry inherent challenges, which can be traced to control over FX impact or with documentation tied to compliance. Done through traditional means, especially in developing markets, it can take months for suppliers and buyers to

> Technology, increasingly, is enabling the **current model of cross-border trade.**

transact, as banks bundle payment requests and deliveries and extend credit through inefficient, paper-based processes.

Citi, for its part, has been integrating cross-border payments with instant payments offerings to help address some of those challenges.

Other technologically advanced offerings can help unlock value and speed up payments in cross-border trade, said Agarwal. He pointed to SWIFT, the global messaging service, which stands as a markedly secure network for delivering tens of millions of messages on a daily basis across 11,000 financial institutions.

SWIFT introduced its gpi standard in 2017, which helps to speed up international payments (payments are typically credited within 30 minutes) and makes them more transparent with enhanced details on costs, FX and settlement.

API Advantages

In addition to SWIFT, Agarwal said, “API, I feel, is arguably one of the most important technological developments in our space in recent times.” Traditionally, payments-centered interactions between companies could be likened to crafting emails — they need to be created, typed, sent, delivered, opened and deciphered. He said APIs can be likened to face-to-face communications, where information is exchanged in real time.

After all, Agarwal noted, cross-border trade is “not just about the

payment process – it’s also about the underlying documentation, which oftentimes can be an extremely onerous undertaking.” That’s especially true when navigating a regulatory environment where compliance means adhering to documents that run hundreds of pages.

The Partnership Model

In the drive to bring cross-border trade and payments into the digital age, Agarwal said, collaboration between banks and FinTechs can yield mutual benefits.

“Banks can benefit from FinTechs, which have very specialized knowledge, and their approach to leveraging technology to create new and sometimes niche services and products to existing financial services offerings.” The FinTechs, in turn, benefit from the banks’ access to large customer bases.

“This need not be a complex business,” said Agarwal of B2B and cross-border trade.

“Cross-border payments at its most basic level is two domestic payments with FX sitting in between,” he told Webster. “My mandate is this notion that we want to allow our clients to make payments from anywhere on the planet to anywhere on the planet as if there are no borders, as if there are no currencies — and as if there are no constraints.”

Citi Explores The Real-Time User Experience

The payments industry has been riding the wave of shifting consumer habits and demands, placing the end-user experience at the forefront of new products, services and infrastructure. Those users, both consumers and businesses, aren't just demanding choice, however.

With the adoption of instant payment schemes accelerating around the world, customers are driving banks to focus on speed, visibility, and added value in their payment services in order to keep clients loyal.

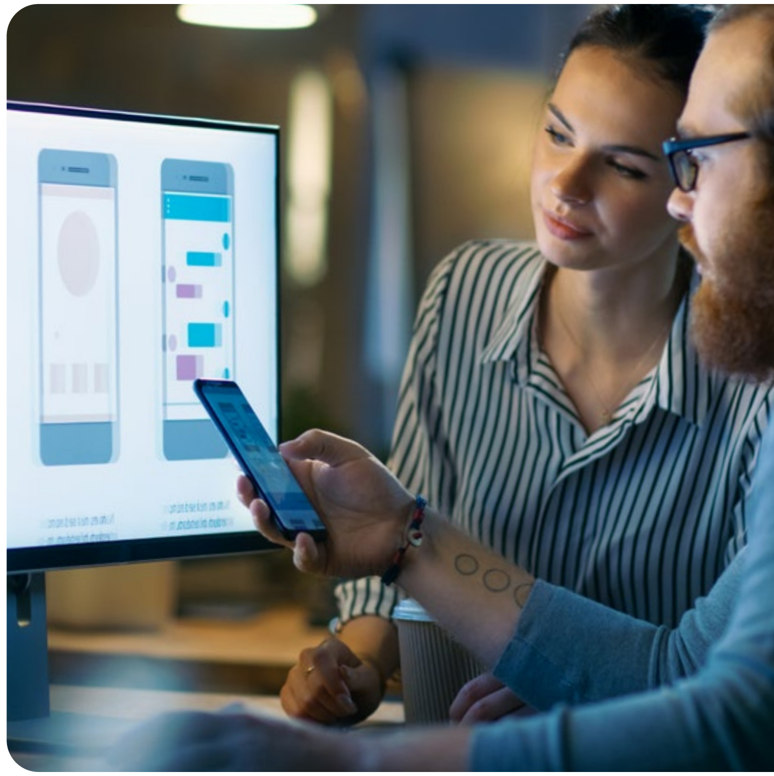
Open banking has the potential to significantly change the way we operate not just in payments, but in the **overarching banking space.**

Anupam Sinha, global head of domestic payments and receivables at Citi, told Karen Webster in the latest PYMNTS Treasurers Need To Know podcast series that this industry shift toward speed and the end-user experience means banks must not only respond to changing customer demands, but must also anticipate future needs that even the users – treasurers included – may not yet know they have.

The emergence of real-time treasury is one example of this, he said.

Only a few years ago, corporate treasurer clients weren't interested in instant payment capabilities, and instead were content to continue managing cash flow based on their 30-day or 60-day payment terms with partners. But with the U.S. investment in real-time payments – one of the first major payments infrastructure investments the country has made in decades, said Sinha – corporates are increasingly acknowledging the potential in instant payment rails, especially with growing expectations for an always-on, 24/7/365 infrastructure.

"The B2B space now sees the benefit [of real-time payments], which is not just about having the ability to do real-time liquidity management or the ability to make emergency payments," he said. "It's also about all of the value-adds it brings in. That is the package that instant or real-time payments will bring in over the next five to 10 years, and I think it will be one of the main ways our clients, even in the B2B space, will make payments."



The Infrastructure Floodgates Open

Sinha pointed to the iPhone as a piece of technology demonstrating the need to anticipate customer needs. A decade ago, he said, if Steve Jobs had asked the world what it wanted in a cell phone, consumers probably would not have responded with something that resembled the iPhone. But the device, of course, took off, thanks in large part to the App Store and its ability to add value to it.

The payments ecosystem has the opportunity to follow that path, he said.

The recent acceleration in the development and adoption of faster payment rails in the U.S. and beyond has anticipated the needs of payers. Sinha pointed to PSD2 in Europe, India's Unified Payment Interface (UPI) and services like Alipay and WeChat Pay in China, opening the doors to a slew of both government-led and private instant payment offerings.

These efforts are laying down the instant payment rails, but key to adoption, he said, are the value-added services innovators are building on top of them.

Open banking initiatives are one of the biggest accelerators of that effort, with industry participants embracing APIs to enable banks and payment service providers to connect and communicate with each other to more seamlessly execute transactions. What's so important about open banking, though, is its opportunity to usher in those value-added services and transform the broader user experience.

"Open banking has the potential to significantly change the way we operate not just in payments, but in the overarching banking space," he said.

Request to pay (R2P) functionality, for instance, has wielded real-time payment rails in markets like the European Union and India, providing the added value of payment confirmation that has historically only been available through card rails, and offering an especially valuable proposition for eCommerce merchants.

"One thing happening as the instant payment rails are being developed is the evolution of request to pay," Sinha said. "As the eCommerce space evolves, that will be one of the biggest developments on instant rails – along with the development of instant direct debits."

The Best Experience Is No Experience

Though real-time payment services are not entirely new, it is only in the last several years that significant infrastructure investments have been made, laying the groundwork for banks, payment service providers and FinTechs to develop value-added services on top of those rails.

Though speed may not be a top priority for corporate treasurers, the value of enhanced visibility and traceability of a transaction, along with elevated transaction data capabilities, make real-time and instant payment offerings enticing.

As banks and payment service providers continue to innovate and drive adoption, their success will be dependent not only on facilitating those value-added offerings, but also on their ability to focus on the end-user experience of those services. But for the payment itself, Sinha said, that means cutting out the friction, promoting standardization and, increasingly, making the payment process so integrated and frictionless that a user hardly even notices it's happening.

"As ecosystems are created, we're trying to embed ourselves into the ecosystem," he said. "It's all about the consumerization of payments, and if you look at the client experience today, it's about providing an invisible experience to our customers."

How Treasurers Prep For Cash Management's 'Worst Days'

There are bad days. And then, for corporate treasury professionals, there are really bad days. The kind of days when systems go dark, cyberattacks run rampant and managing cash flow is akin to flying a plane without instrumentation.

In the latest Treasurer's Need to Know series, Mark McNulty, who serves as managing director, head of clearing and FI payments at Citi, told Karen Webster that security must always be top of mind. After all, he said, "the risks of running a corporation, and specifically of executing a number of financial functions, are greater than they ever have been before."

The Two Categories of Risk

Those risks fall into two broad categories, he told Webster.

"First, there's good old-fashioned fraud," he said, "which is alive and well, is not going away and continues to increase."

Alongside that risk, he said, exists the danger of cyberattacks, where attacks are also growing in number and scope — and where motives and objectives can be diverse, ranging from stealing customer data to stealing money to simply causing disruption.

And yet even with those heightened dual risks, corporations across the banking ecosystem cannot afford to trade off convenience for the sake of security, or vice versa. As he told Webster, a balancing act materializes.

As payments professionals seek to remove friction from the payments experience, they must also be mindful of the impact security has on the process.

"We need to implement the right controls based on the innovations, and the enhancements that are happening in the markets," McNulty said.

Such concerns about external threats — and balancing acts focused on minimal friction — are especially urgent when it comes to faster payments, he said.

In a world that is increasingly moving toward real-time and instant flow of funds, faster settlement of transactions means that a fraudster or cyberattack has a greater chance of getting away with ill-gotten gains. As funds move across banks, from accounts to account, they can be hard to track.

Thus, treasurers need to beef up controls at transaction endpoints, he said. There's also a heightened importance, in a world where payments are getting faster and faster, on establishing recovery protocols at banks and corporates for when payments do go awry.

The earlier a fraudulent payment is identified, the greater the chance to recover funds, he said, especially with robust communications and documentation flowing between banks and corporates. Constant, real-time intelligence in essence creates a positive domino effect of fraud prevention.

Lines of Defense

McNulty noted that the focus on increasing security and controls across the financial ecosystem has become more collaborative, with positive results.

He cited the example of the U.S. body dedicated to information sharing among financial institutions, with a cyber focus — the Financial Services Information Sharing and Analysis Center. Through that center, institutions are able to give each

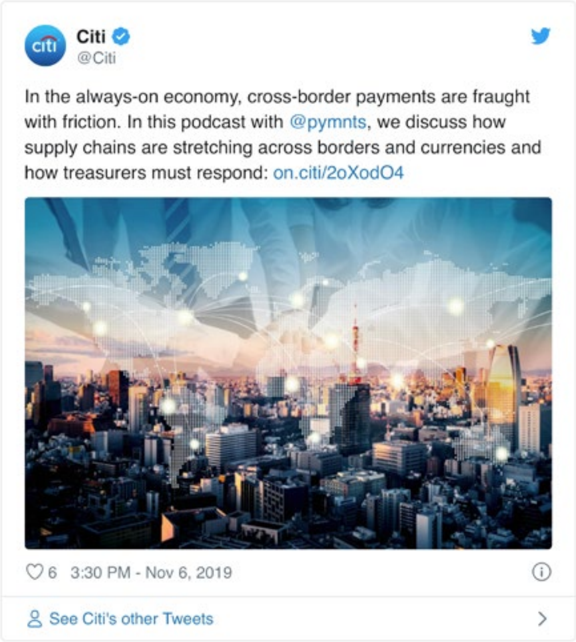
> "We need to **implement the right controls** based on the innovations, and the enhancements that are happening in the markets."

other “heads ups” about attacks and concerns as they occur.

He cited other risk-reduction programs that cut across the banking ecosystem including SWIFT’s customer security program, which mandates that every institution, including corporates, connected to the payment messaging system have a minimum set of controls — and participants need to attest the controls that are in place.

In addition, SWIFT gpi represents a significant upgrade in transparency and how banks communicate with one another, he said. SWIFT gpi has digitized the inter-bank processes for stopping and recalling payments that have been sent in error and standardizes how messages are routed and delivered. As a result, he said, recall messages are delivered to the right banks in the shortest amount of time, which can increase the chance of successfully recovering fraudulent payments.

There’s also value to be found through enhanced messaging capabilities with the ISO 200222 standard. McNulty said the standard is the norm among instant payment schemes taking shape around the world — and beginning in 2021, the migration of major RTGS systems to that same standard will foster greater interoperability.



Gearing Up for the Worst Days

All of these trends — toward information sharing, digitization of processes and interoperability —

will help treasurers and payments executives grapple with the “worst day” scenarios that lie ahead.

Those are the dark days — literally, where entire operating systems go dark. Past experiences have taught corporate payments professionals to institutionalize processes, said McNulty, including documentation that directs various professionals within a firm who to contact, when to contact them and who has decision-making authority across a multitude of urgent situations.

Back to Basics

The best non-technological defense mechanisms can often be traced to what might be thought of as housekeeping, said McNulty, but it’s housekeeping that needs to be prioritized and constantly kept up to date. Centralization of treasury functions can be a powerful enabler to ensure that the right controls and contingency processes are applied consistently.

For treasurers that means making sure that if systems are down they know how to instruct transactions that need to move with their bank through alternative means and ensuring clarity exists on where the chain of command lies in a crisis.

That mindset goes well beyond firewalls and other technological defenses against threats, and in the case of fraud prevention, proactivity includes such measures as ensuring there are robust validation of customers at the onboarding stage and before payments are made, said McNulty.

In prepping to prevent and prepare for those bad days, he said, treasurers need to embrace the mantra “protect, detect and respond” continuously through their operational processes and procedures as they seek to improve security.

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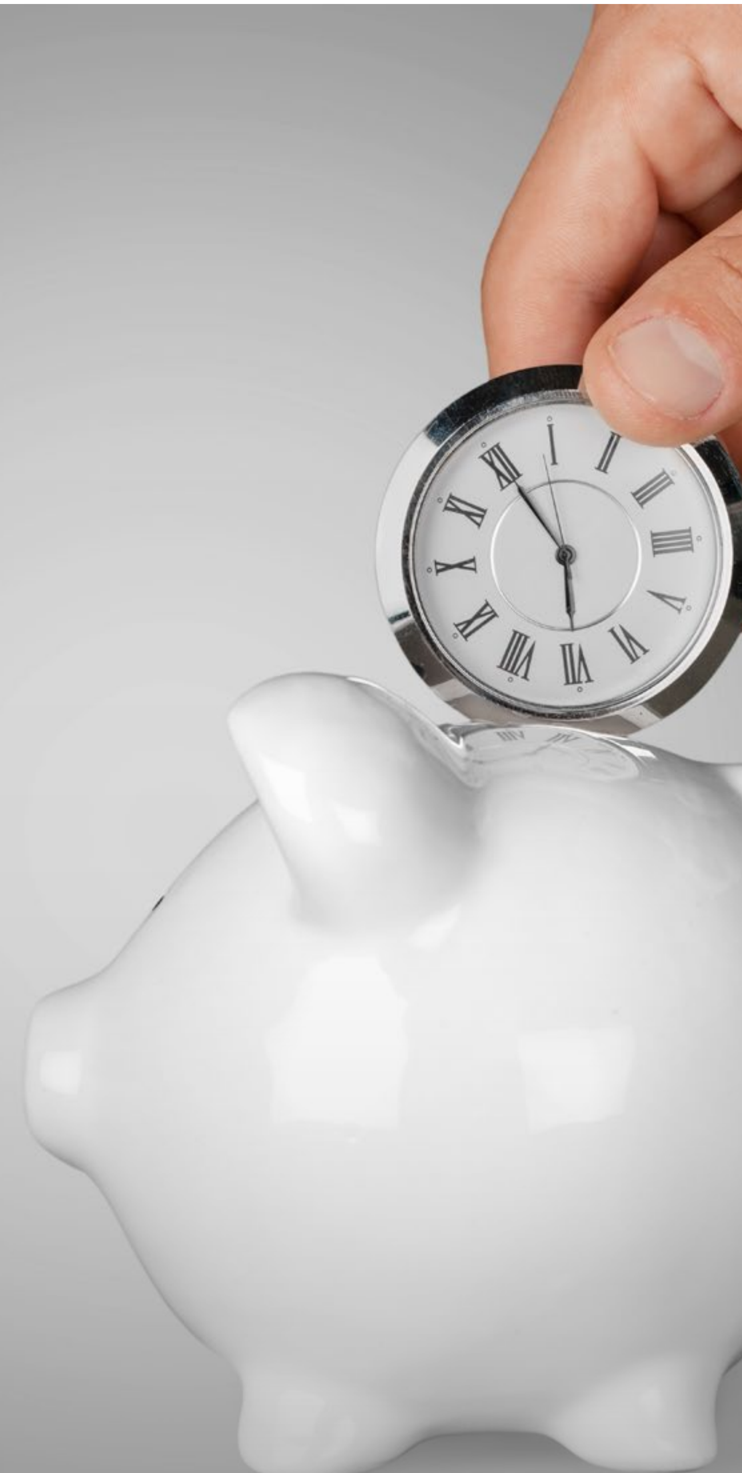

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