PREVIEW EDITION

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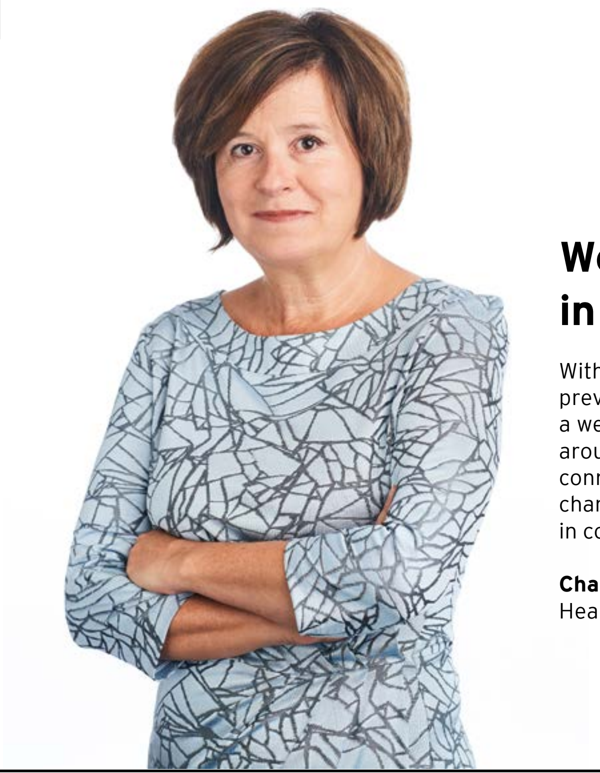

Welcome to Sibos 2019 in London

With Sibos 2019 just around the corner, we hope this preview edition of Sibos Issues whets your appetite for a week of debate, discussion and networking. All based around the Sibos 2019 theme of 'thriving in a hyper-connected world', these preview articles reflect the fast-changing nature of our industry and the topics highlighted in conference sessions throughout the week.

Chantal van Es
Head of Sibos

Front cover photo of
Dame Stella Rimington, ex-DG, MI5

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Held in London for the first time, this year's Sibos will be opened by an economist who understands both the city and its place in a fast-changing world.

Dame Minouche Shafik, director of the London School of Economics and Political Science (LSE), one of the world's leading social science universities, is ideally positioned to deliver the welcome address at a conference focused on 'Thriving in a hyper-connected world'. Her research has frequently revolved around the dynamic forces that support sustainable economic growth in a complex global environment.

Independent of the LSE leadership role she has held since 2017, Shafik has experienced London from a number of perspectives – student, central banker, civil servant, trustee – across a varied career.

Born in Alexandria, Egypt, Shafik studied for an MSc in economics at LSE, having graduated in economics and politics at the University of Massachusetts in Amherst, before completing a DPhil in economics at St Antony's College, University of Oxford.

She then left the UK to teach at both Georgetown University and the Wharton School of the University of Pennsylvania. In a 15-year career at the World Bank, Shafik worked on the organisation's first ever World Development Report on the environment, designed reform programmes for transition countries in Eastern Europe, and developed proposals for economic integration in support of the Oslo peace process in the Middle East.

Having become the youngest vice-president in the history of the World Bank at the age of 36, Shafik returned to London in 2004 to continue her career in public policy. She rose to become permanent secretary of the Department for International Development where she was responsible for the UK's development assistance efforts around the world.

Shafik joined the Washington-headquartered International Monetary Fund (IMF) in 2011 as deputy managing director with responsibility for many of the crisis-hit countries in the euro-zone and the Arab countries in transition. She also oversaw the IMF's university, which trains thousands of government officials each year, and was responsible for human resources and an administrative budget of US$1 billion.

From 2014-2017, Shafik served as deputy governor of the Bank of England, responsible for a balance sheet of almost £475 billion, and sat on all its major policy committees, including the Monetary Policy Committee, Financial Policy Committee, and Prudential Policy Committee. She also led the Fair and Effective Markets Review, which put in place a set of reforms to tackle misconduct in financial markets.

Shafik currently serves as a trustee of the British Museum, the Council of the Institute for Fiscal Studies, governor of the National Institute for Economic and Social Research, and is honorary Fellow of St. Antony's College Oxford. As well as holding three honorary doctorates from UK universities, she was made a Dame Commander of the British Empire in the Queen's New Year's Honours list in 2015.

Dame Minouche Shafik

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Evolution or revolution?

Banking services are becoming more integrated, but will bigtechs be partners, rivals or both?

Over the centuries, banking has been no stranger to disruptive forces. Most historians identify the emergence of the banking system that we know today in the Italian merchant cities of Florence, Venice and Genoa during the 14th century. The oldest bank still in existence is Banca Monte dei Paschi di Siena, which has operated continuously since 1472; this longevity should speak volumes about the resilience and adaptability of the banking industry.

Financial crises, booms and busts have come and gone, banks have fallen by the wayside and new technologies and competitors have emerged. Throughout, the business of banking has continued.

"There always will be regulated entities that will serve the needs of customers who want a safe entity to borrow money from or to place their money in," says Mark Evans, managing director, transaction banking at ANZ Bank. "Call them banks or anything else, they will be the lynchpin in providing financial stability to support governments and promote social and economic stability."

As banks, we don't focus enough on how our customers behave.

Paula da Silva,
SEB

The role of banks as trusted counterparties maintaining a stable system is not changing.

Mark Evans,
ANZ Bank

Even so, we appear to be living in an era of profound change in the nature of banking. David Bannister, senior analyst in research company Aite Group's wholesale banking and payments team, says some digital technologies – such as artificial intelligence, machine learning and distributed ledger – are leading to questions about how banking is done. "People are saying 'we don't have to do things this way' because some of the existing processes are getting in the way," he says.

Paula da Silva, head of transaction services, SEB, says: "Most changes that the banking industry has undergone historically have been about automation, about making things more visible for customers and ultimately to enable them to carry out some services themselves. In the future banks may become 'invisible', but they will be embedded in the value chain in a totally different way."

Predictive power
The biggest disruption, says da Silva, will be in how customers buy banking services, rather than in response to a particular regulation or technology. "How banks work with their brand and what they identify as value-added will be very different from the past. As banks, we don't focus enough on how our customers behave, how they buy banking services."

Understanding behaviour is increasingly about big data – turning the information a financial institution holds into actionable business insights. The organisations that are most adept at leveraging data have been the bigtech firms such as Ant Financial, Google, Apple, Facebook and Amazon. These companies have vast stores of data, powerful analytics capabilities and are relatively lightly regulated compared to banks.

In its Annual Economic Report for 2019, the Bank for International Settlements' economic adviser and head of research, Hyun Song Shin, outlined the pros and cons of bigtech involvement in financial services.

"The predictive power of the bigtechs' scoring systems arises in large part from exploiting the network structure. For instance, MYbank (Ant Financial group) uses network analysis of transactions to evaluate whether an entrepreneur separates personal funds from business funds, one of the basic principles of good business conduct," he said.

These data analytics are fundamental to bigtechs' finance sector ambitions. The combination of granular data and machine learning has the potential to improve the accuracy of repayment predictions, especially for small merchants that are typically not well served by incumbent banks.

To date, financial services comprise only a small part of the big techs' global businesses. But given their size and customer reach, said Shin, they have the potential "to spark rapid change in the industry".

The BIS report was compiled before Facebook announced plans to launch its own cryptocurrency, Libra. Facebook says the currency will be backed on a one-to-one basis through cash bank deposits, short-term government securities and hard currencies, including the US dollar, sterling, euro and Japanese yen. A number of companies have already backed Libra, including Mastercard, Uber, PayPal and eBay. At present, no banks are part of the group.

Defending the company's plans at a US House Committee on Financial Services hearing in July, David Marcus, co-creator of Libra and head of Calibra, the subsidiary formed to operate the currency, said: "If America doesn't lead innovation in the digital currency and payments area, others will."

Combining competences
Da Silva believes banks should be working with the bigtechs and fintechs to connect and combine competencies. This is a "big leadership challenge" for banks, she says. "The bigtechs and fintechs know their customers' social behaviour and banks know their customers' banking behaviour. That is a perfect combination; no one entity can develop everything on its own."

Aite Group's Bannister agrees. Digital technologies will allow banks to do things "faster and cheaper", but they will also make it faster and cheaper for everyone else, too. "Banks and non-banks are defining the roles they will have in the emerging ecosystem. Transaction banks are in a better position because their customers are multi-banked and they have a collaborative mindset."

Collaboration between banks has accelerated in response to technology-driven change. Emma Loftus, head of global payments at JP Morgan, points to SWIFT gpi, an initiative driven by SWIFT and its member banks. SWIFT gpi's initial focus was on improving speed and transparency in the cross-border payments ecosystem, but its application is now being investigated into other areas including low-value ACH and real-time payments. "Global banks have worked together to provide the same client experience as the non-bank and fintech players, who previously had predicted the death of the bank payments model," she says.

The longevity of banks and the banking model comes down to trust, Loftus adds.

The biggest disruptor of them all?

The four years between 2014-2018 were the hottest on record. Climate change could be the biggest disruptor that not only the banking industry, but the world, will face.

SEB's Da Silva says banks will have to adapt to the changing world, reconsidering how to determine value and who to lend to. This may involve funding the transition efforts of firms in carbon-intensive industries as well as identifying green technology pioneers that might soon become world leaders. "We need to understand what climate change means and collaborate with the rest of the industry. This may mean dramatic change, funding green initiatives and implementing eco-friendly ways of working. There is a demand on us as companies – and also as humans – to examine our behaviour."

At ANZ, Evans believes climate change will have an impact on how banks operate. "The focus for large multinational companies is to make sure their supply chains are green and sustainable. Banks can play a role by issuing green bonds, for example, and encouraging clients to identify their climate change risks and support the creation of transition plans – along with adjusting their own processes."

But Evans warns that such change will involve tough decisions: "All coal mines cannot be shut down tomorrow as there are communities that depend on them." However, through collaboration and a "balanced approach," banks can help to formulate the best outcome possible.

Alipay looked at old technology in a new way to address payments friction.

Zenon Kapron,
Kapronasia

Any company where the collection of or disbursement of funds is central to the operating model will also require an end-to-end experience that delivers security, finality and local regulatory compliance. The greater the number of countries such companies do business in, the more important these elements will be. "Banks do all of this for a living, all day long," she notes.

"Huge change"
While the impact of fintechs and other disruptors has not yet been as dramatic in Europe and the US as forecast a few years ago, there has been a "huge change" in the way individuals and SMEs in Asia conduct their banking, says Zenon Kapron, director of consultancy Kapronasia.

Alipay, a subsidiary of Ant Financial, has achieved deep market penetration, with millennials in China investing their money with Alipay (and WeChat Pay) rather than with a traditional investment firm. Alipay was originally created to provide the technology infrastructure to support e-commerce, providing trust for merchants and their customers. It has since expanded into other services including wealth management, credit scoring and lending.

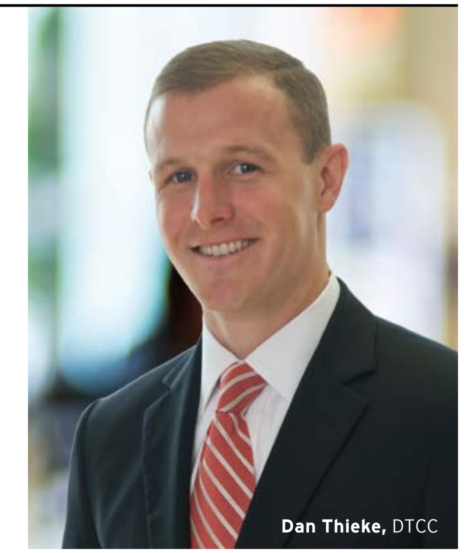
The 'secret' of Alipay's success has been in addressing friction across the value chain, says Kapron. To do this, the firm has not always looked to the latest technology. One of the biggest Alipay success stories has been the facilitation of payments based on QR codes, a technology that emerged well before blockchain, for example. "Alipay looked at old technology in a new way to address payments friction," explains Kapron. "A merchant can set up the ability to accept QR code payments very quickly and such transactions take only around five seconds."

Kapron believes one picture of the future of banking may be emerging from China. For the past few years, the central government has been pushing the bigtechs to become tech providers, rather than financial services providers. This will mean that when a loan application comes to Ant Financial, it will be syndicated through the banks and sit on their balance sheets, rather than on Ant's. "In this model, banks will bring trust and balance sheet liquidity that can be applied to different customer scenarios. For their part, the bigtechs can provide credit ratings of individuals and SMEs, based on their behaviour," says Kapron.

It's 25 years since Bill Gates observed that banking was necessary, but not necessarily banks. ANZ's Evans says the role banks play will always be in response to how the wider community operates. "The players in banking may differ, but I cannot see any fundamental change to the role of banking in my lifetime. The way the service is delivered may be different, but the role of banks as trusted counterparties maintaining a stable system is not changing."

Resilience first: Be prepared for 'when', not 'whether'

Dan Thieke, managing director, Business Risk & Resilience Management at DTCC, emphasizes the role of resilience in financial stability.



Dan Thieke, DTCC

When it comes to making today's interconnected financial ecosystem more resilient, everyone agrees on one thing: It's not a matter of 'whether' critical business services will be disrupted, it's just a matter of 'when.' It is more important than ever to be prepared for cyber-attacks, technology-related incidents and other types of shocks that could have systemic ramifications.

As concerns over physical events are starting to be eclipsed by the threat of wide-scale technology disruptions, the scope of resilience programs has expanded significantly. The ability of these programs to adequately absorb shocks and allow firms to quickly recover from disruptions has become a central point of focus for regulators and practitioners alike. In view of how significantly the market environment has changed over the last few years, maintaining appropriate levels of resilience is a complicated balancing act that needs to incorporate a wide array of trade-offs and competing objectives.

In light of this challenging environment, DTCC executives attending Sibos will discuss principles and guidelines for promoting financial stability by planning for disruptions. They will describe our vision for enhancing resilience as a way to safeguard critical business services. They also will highlight some of the salient paradigm shifts faced by the industry and describe how this topic has morphed from an IT-centric concern to a first-order business imperative and a strategic enabler.

DTCC's team also will describe how the firm is leveraging leading-edge design principles as it embarks on a multi-year strategic initiative to build a future-state IT architecture that is resilient by design. The principles and guidelines that support DTCC's approach to enhancing resilience are being shared with the industry as an invitation to foster an active and robust dialogue on this critical topic that includes all stakeholders.

Developing the vision, however, is only the first step toward enhancing resilience. To successfully implement these concepts, organisations must set up an effective governance structure and an operational model that best suits their needs. DTCC is creating a Business Resilience Center of Excellence to this end. This approach will help facilitate rapid deployment that leverages existing resilience-related activities, while centralizing talent and expertise within the company.

Safeguarding the stability of financial markets during times of uncertainty has been a key part of DTCC's mission for more than 45 years. Today, as we double-down

We are committed to leveraging our experience to lead the evolution of industry-wide resilience.

on strengthening our processes to address ever-changing threats, we look forward to collaborating with our partners in the industry on a new vision for enhanced global resilience.

DTCC

If you'd like more information about DTCC, stop by our stand onsite at Sibos London, at W104.

For more insights on critical industry issues and cutting-edge innovations, visit Perspectives.dtcc.com

Future of banking: Evolution or revolution?

Cybersecurity: Faster, but safer?

Eyes on the prize

Banks looking to leverage data to deliver superior services must overcome technical and regulatory challenges.

> **Regulators are rightly concerned about the explicability and auditability of AI.**
>
> **Stuart Breslow,** Google

Regulatory fragmentation over data use – and political concerns about its capture and exploitation – create challenges around a key resource for global financial services players. Seeing data as the fuel for the engine in many of their businesses, banks are keen to navigate any obstacles to its effective use.

Neil Francis Ryan, head of investment analytics and data services at BNP Paribas Securities Services, says, "We are very conscious of understanding our data internally, and what the conditions and constraints are on that data going on the cloud, even if it is a private cloud."

Constraints come in the form of both technical and regulatory barriers. According to experts, challenges to leveraging data are threefold: developing technology that can offer the required analytics; optimising cloud technology in order to store and deploy data efficiently; and providing transparency to regulators and clients.

Politically, the access and control of data has become a key concern for governments, primarily impacting technology firms. The current US administration has frequently alleged intellectual property theft by Chinese state-owned enterprises and restricted the domestic use of technology supplied by firms such as Chinese telecoms provider Huawei.

Cloud services provision is dominated by US firms including Amazon, Google and Microsoft, but in China foreign operators can only function if they partner with a local firm. The two markets appear to be developing on separate paths, with Amazon selling the hardware of its Chinese cloud business to its local partner, Beijing Sinnet Technology, in 2017.

Yet China has announced two plans for becoming the global superpower in artificial intelligence (AI) by 2030, which could be an invaluable resource

> All firms are aware of pressure to improve data governance and control.

Charles Teschner,
BNY Mellon

> We are very conscious of understanding the conditions and constraints on data going on the cloud.

Neil Francis Ryan, BNP Paribas

for the finance industry in the future. Meanwhile, Europe has led the world in setting high standards for the protection of data, obliging global players and infrastructure providers to raise their game. Understandably, there is both caution and optimism among banks looking to leverage data more effectively to better serve clients across jurisdictions.

"In securities services, businesses are becoming more adept at using data effectively," says Paul Clark, global head of digital and data, for HSBC Securities Services. "It will become an enabling factor for us to do fast processing, driving insight, powering AI and machine learning (ML). All this helps us aid better decision making. Also, as the industry becomes more comfortable with the concept of central digital ledgers, we will start to see the benefits of single versions of truth, which reduce that need for reconciliation, speeding up straight-through processing."

Being at an early stage in the use of these technologies, banks must navigate barriers carefully, to ensure they take the best steps forward.

"When I look at the ability of technology and analytics to transform the industry, I feel like it is only at 5% of its potential," says Charles Teschner, global head of data and analytics solutions at BNY Mellon. Firms increasingly recognise data's potential, he says, but are also aware of "pressure from all users to improve data governance and control, partly as a result of regulation, but also an institutional 'Facebook-effect'."

Technical ability
Some of the most advanced technologies being used across the industry to leverage data are based upon AI and ML. By allowing a flexible approach to finding patterns – based on tracking and learning their characteristics, rather than using inflexible rules – these models can quickly assess much larger data sets than can be appraised by a human, finding correlations and linkages that might otherwise go unnoticed, as well as subsequently spotting them in new data. This can be invaluable in areas as disparate as voice recognition and anti-money laundering, where a bad actor may adapt an existing approach to avoid detection, but unwittingly continue certain behaviours.

Financial service providers keep a close eye on the lead provided by bigtech pioneers. But even Stuart Breslow, managing director for technology and policy at Google, admits there is a long way to go. "AI/ML is already in use both on the business growth side of the house, for example supporting informed sales lead generation, and on the cost savings side of the house, in the execution of repetitive tasks. AI/ML can potentially impact compliance activities, making them more effective by identifying bad behaviour which has otherwise been undetected, and by materially reducing false positive investigations."

AI/ML-based tools can tackle labour-intensive processes, even those that require cross-checking between systems, as long as the data is available to train them on. "Reconciliation is a big operational pain point for any firm," says Allen Cohen, digital officer at BNY Mellon's asset servicing business. "Advanced AI/ML algos are being used in the reconciliation process to eliminate false breaks and problems due to timing issues, thus allowing firms to focus on the exception processing, instead of having to figure out what the exceptions are."

For AI/ML-based tools to add sustainable value to clients, service providers need to focus on the quality, reliability, and accessibility, according to Stephen Bayly, chief information officer at HSBC Securities Services. "If you give AI bad data, it's going to make bad decisions. It's not just how we train our robots, if the end-client is receiving bad data on the front end, then the reputation of both our clients and ourselves is hugely damaged. Better quality data is absolutely paramount."

Floating costs
Cloud computing is crucial to bank efforts to leverage large data sets. By tapping data stores that can be accessed at will but can be paid for as needed, rather than as a fixed cost, financial services players can grow their use of AI and ML while firmly controlling cost.

Chris Jones, global head of strategy, innovation and architecture for IT and change at HSBC Securities Services, notes the inherent peaks and troughs in processing power needed to support AI and data processing. "Through the cloud, we are able to get that processing power as and when we need. It's allowing us to focus on the functionality the client wants, rather than worrying about how much capacity we have in a data centre," he explains.

Google's Breslow argues that many financial services firms are "encumbered" by data systems which are fragmented and inconsistent, often as a result of M&A activity and silo-led technology purchases. He also notes limited levels of comfort and understanding of AI at staff and leadership level.

"The good news? The cloud can provide a singular environment for consolidating data across these federated systems, which can then be tapped by AI," he says. "There are now tools to automate the cleansing of data masses across disparate sources, delivering the foundational benefit of strong data hygiene."

Breslow says the prescription for success in adopting AI is the engagement with 'hyperscale' cloud service provider offerings, in other words industrial-strength tools. "These providers can be used to create robust data environments [and] scale compute on which to run complex analytics against massive data sets," he says.

Playing by the rules
Legal and ethical considerations can also impact the effective deployment of data to support banks and their clients. BNY Mellon's Cohen says cloud providers have adjusted in recent years to data privacy rules that require client data to be held in country, typically by expanding data centre networks. "They have matured enough to put data where they want it, but can accommodate the privacy requirements," he explains.

In Europe, the General Data Protection Regulation (GDPR) has set very stringent guidance for the use, storage and protection of data, but the overall regulatory landscape remains diverse.

"GDPR is a regulation in EU law, and non-European firms trading in Europe are governed by it. We have operations in the Americas and Asia-Pacific, so we also take those jurisdictions into account in terms of our data governance," notes Ryan. "There are often country-specific privacy concerns, with certain countries having additional requirements for how data is managed and limits on data leaving their borders. We have taken these regulatory requirements into account from an operations, technology and people perspective."

Authorities are also keen to know that data processing is being undertaken with due care and consideration. For AI, that can include ensuring it is not discriminating between clients unfairly or making decisions that cannot be explained.

"Regulation does pose challenges to AI adoption," says Breslow. "There's the risk management requirement that the financial services providers must demonstrate transparency as to how the AI itself works and how the output can be explained. Regulators are rightly concerned about the explicability/auditability of AI; beyond fundamental risk management, they have to be comfortable that decisions and output are wholly objective—that the AI works as intended."

These challenges are not deal-breakers; finance sector firms are working hard and working together to ensure that regulatory

Better quality data is absolutely paramount.

Stephen Bayly,
HSBC

guidelines are adhered to and technological challenges can be overcome.

"We continue to have discussions with regulators regarding data protection," says Jones at HSBC. "If one player was to have an issue in this space, we would all be tarred with the same brush, so a collaborative effort is needed."

Google's Breslow suggests efforts by cloud and financial service providers to address regulators' concerns are starting to bear fruit.

"With the advancements in explicability tools and methodologies, as well as articulation by cloud providers of AI principles founded on fairness and transparency, we also see increasing interest among financial regulators to explore the use of AI in financial services."

Leveraging data: Eyes on the prize

Geopolitics & regulation: Adapting to a new age of uncertainty

Faster, but safer?

How will banks protect their clients' assets in the era of open banking and real-time payments?

> You may be able to create more resilience in the system because it is more distributed.

Tim Maurer,
Carnegie Endowment for International Peace

> We have reached a point of interdependence in the digital ecosystem.

Sir Rob Wainwright,
Deloitte

Cyber-criminals are intelligent, creative and increasingly resourceful. The good news is: so are we. "We're seeing larger investments of brainpower, larger budgets and increased IT capabilities focused on cybersecurity, while at the same time, the threats have gone up a gear as well," says Sir Rob Wainwright, senior cyber partner at Deloitte North and South Europe, who will contribute to Wednesday's Big Issue Debate around the question: Have new business models created a perfect cybersecurity storm?

On the face of it, they have. The downside of high-speed processing and API-enabled hyper-connectivity on a global scale is that criminals can transact more quickly than we can detect them. But that's only part of the challenge we face today. Cybercrime itself is evolving, constantly. Once, state-of-the-art cybersecurity meant reminding customers to protect their passwords; now, we're putting up barriers against a systemic threat. "There is a growing involvement of malicious state actors, while the most capable cybercriminals are moving towards direct attacks on the banking networks themselves," says Wainwright. Perfect or not, this storm is severe.

Business risk

Beyond this, it's a storm no banker – nor regulator, nor fintech, nor other participant in global finance, large or small – can afford to ignore. The Big Issue Debate on cybersecurity will be addressing a challenge that we must all face – and it's not just a threat that comes from outside. Effective cybersecurity measures have become a requirement for any bank connecting to global networks, for the simple reason that a bank unable to demonstrate its own cybersecurity – a bank not up to speed on the latest cybersecurity measures being deployed across the industry – risks being treated (or rather, avoided) as a potential weak link.

If you're not secure, you're at risk of losing business. Mark Gem, member of the executive board and head of the risk committee at Clearstream, says: "Your own organisation might have taken the necessary steps to be secure, but if the defences of a counterparty or client have been penetrated, you too are at risk. We must all recognise that there is a new dimension to bank-to-bank, and market infrastructure-to-market infrastructure, relationships." At one level, this is a KYC issue, and that's potentially expensive in itself, but at another level, it's a "don't be shut out of business" issue – we're talking about survival. Gem continues: "Every organisation has a duty to assess the operational risks of being so interconnected."

Cybersecurity is the biggest of big issues, and Wednesday's speakers will identify best practice and discuss present-day and evolving counter-measures and solutions, in the context of ever-faster transaction speeds processing speeds that leave less time for security checks. We'll hear about initiatives to contain and even defeat cybercrime, and to track its perpetrators, and there will be discussion of cybercrime as a tool of statecraft – there are ramifications here that go beyond banking. And yet the tone of the debate will be positive: we're focused, and we're getting to grips with cybercrime. "The financial services industry is accelerating its cybersecurity capability at a faster rate than any other industry," says Wainwright.

Adverse weather

For all of our institutions, what matters is to keep up or even ahead. Sibos 2019's cybersecurity strand runs through the week, of course, and the SWIFT Institute has published 'Cyber Resilience and Financial Organizations: A Capacity-building Tool Box' in partnership with the Carnegie Endowment for International Peace (CEIP) and others. This set of six guides and checklists, available in seven languages, delivers actionable guidance on cybersecurity frameworks, policies and standards around the world. Tim Maurer, co-director of the CEIP's Cyber Policy Initiative, says: "When used properly, these tools will prevent dangerous hacks to financial institutions across the world."

Does Maurer believe that new business models – with their emphasis on speed, openness and cloud-based collaboration – have created a perfect storm? Now that real-time payment initiatives have cut processing times to sub-second levels, so that settlement is irrevocable almost instantaneously, are we – and our defences – likely to be left behind as we battle all this adverse weather? Maurer says: "I don't think we can make a definite statement as to whether new developments in technology will improve or hamper cyberdefences. At the same time as we've seen changes to payments systems, we've seen changes to defence technologies, particularly with respect to machine learning."

There's a belief that "offence always trumps defence" in cybercrime versus cybersecurity, Maurer observes, in that systems are vulnerable and criminals have the advantage of surprise. Criminals only have to be lucky once, as the saying goes, while we have to be vigilant all the time. But this may be changing. Maurer says: "Some experts expect that machine learning will tilt the balance in favour of defence." Over time, rapid processing might work to our advantage rather than our disadvantage. Steve Silberstein, CEO, Financial Services Information Sharing and Analysis Center (FS-ISAC), makes a similar point. "Real-time payments have different risk characteristics than

> **Rapid processing might work to our advantage.**
>
> **Steve Silberstein,**
> FS-ISAC

> **Every organisation has a duty to assess the operational risks of being so interconnected.**
>
> **Mark Gem,**
> Clearstream

traditional timelines. One of the risk-benefit ratios is that there is almost instant feedback on the transaction, which allows the bank originating the payment to deal with any issues immediately," he explains.

Layered defence

How good is your AI? This is an increasingly important question for banks' information security professionals. If your machines learn faster than their machines, you're safe until next time. And if you keep up with best practice, you're safe next time as well. Silberstein continues: "Financial institutions must employ a layered and adaptable defence model to adequately detect and prevent fraud, including strong authentication measures and threat intelligence." On top of that, Silberstein suggests, banks should engage in the sharing of threat intelligence to facilitate a greater industry-wide understanding of evolving criminal methodologies and tools.

There is almost an analogy with principles of survival in the natural world – stay close to your peer group because the predators will be more likely to pick off the outliers – but there is a powerful business case for keeping informed and keeping your defences up to date. If you're not networked into the state-of-the-art solution, you risk being seen as potentially part of the threat. That's bad for business, as above – but it also prompts a further question: what about new business; what about innovation? Cybersecurity is a co-operative not competitive space, but if we're openly and necessarily co-operating, doesn't that have at least some impact on our ability to compete?

So far, we know that faster processing speeds can work for us as well as against us, if our machines are up to the challenge, and that a primary defence against cybercrime is to get together and share. Our new business models might have created a storm, but we already have access to some pretty robust insulation. Cybersecurity is a space in which we're doing pretty well already, and the message on Wednesday won't be that we need to wake up, so to speak, but that we need to stay sharp. Feel confident, but don't feel complacent.

But if that's the present message – what about tomorrow? New business gives way to newer business, after all. As we open up our systems to third parties – deliberately – aren't we further increasing our vulnerabilities?

Again, this is a question where the answer isn't quite as obvious as might be expected. Silberstein says: "Financial institutions must constantly adapt their cybersecurity to address evolving risks. While the increase in the amount of connections to a customer's financial information can lead to new cybersecurity risks, there can be opportunities to mitigate fraud with these new technologies." An example might be the use of a tokenized account number instead of the actual account number. Silberstein adds: "Open banking can offer avenues such as payee confirmation to prevent a consumer from sending money to the wrong account."

Fresh perspectives

Coming at this from another angle, Maurer says: "If you have an open system, you may be able to create more resilience in the system because it is more distributed and you have a greater diversity of actors. Also, some of the innovation we may expect in the coming years may be more resilient than systems currently in use." The picture is mixed, he concludes. Cybersecurity is mission-critical for enterprises seeking to connect to banks as well. We're opening ourselves up to new risks, but also to fresh perspectives on how to defeat cybercrime – and distributed networks may be a complex challenge to cybercriminals as well as to the rest of us. Maurer does, however, point to implementation as an area of vulnerability: be vigilant as you move to the cloud, or implement a new connection.

New technologies may also be more secure than we have now, and new approaches are evolving – there's an emphasis, for example, on constantly seeking "better practice" rather than settling on best practice. But the final argument for a rigorous policy of keeping your cyberdefences up to date is simply: there's no alternative. Wainwright says: "We have reached a point of interdependence in the digital ecosystem. We cannot now remove the threat of cybercrime. It's here to stay. It's part of the landscape." Strategic resilience requires quick detection, layered defence, and above all, mindset. "In the end, we're talking about the integrity of the financial system as a whole."

← Cybersecurity: Faster, but safer?

→ Next generation: The new A to Z of banking

Adapting to a new age of uncertainty

> **The geopolitics of trade are beginning to impact overall trade values and volumes.**
>
> **Dr Rebecca Harding,** Coriolis Technologies

Banks are turning to technology to mitigate the risks of an increasingly unpredictable business environment.

Following 18 months of tariff hikes and threats by US and China, there is no resolution in sight. Nevertheless, signs of geopolitical tension are unlikely to subside in the medium term, as more countries temper their support for globalisation and the multilateral organisations that govern it, their policies and outlooks tinged increasingly by economic nationalism.

Rising tariffs are only one symptom of heightened geopolitical discord, alongside more frequent use of sanctions, compliance fines and regulatory fragmentation. In a number of countries, domestic political agendas are increasingly winning out over economic reasoning, as policy-makers appear to prioritise national interests over consensus-seeking and co-operation with allies and neighbours.

"The US-China trade war, and the geopolitical tensions that are building in the Middle East, are making trade's compliance and cost environment more complex," says Dr Rebecca Harding, CEO of Coriolis Technologies, and author of 'The Weaponization of Trade: The Great

Innovations in e-commerce, digitisation and DLT are making trade safer and more efficient.

Natalie Blyth, HSBC

We're witnessing a transition from an era of globalisation to the opposite.

Dr Angela Gallo, Cass Business School

Unbalancing of Policy and Economics'. "The geopolitics of trade are beginning to impact overall trade values and volumes and this is a serious challenge for growth in the coming year."

Trade distortions

The problem has been a long time coming, but is increasing sharply. Discriminatory trade actions by G20 economies have risen steadily since 2012, according to Global Trade Alerts. Between December 2018 and April 2019, G20 countries imposed 288 trade distortions affecting more than US$1.15 trillion of trade[1]. Retaliatory US-China actions accounted for just one sixth.

Even where multilateral deals can still be struck, such as the European Union's trade agreement with the four South American countries of the Mercosur Group, contrasting positions on other policy issues (in this case, conservation of the Amazon rainforest) can threaten to undo multi-year negotiations.

In April, the World Trade Organisation (WTO) predicted merchandise trade volume growth would fall to 2.6% in 2019 from 2018's 3.0%. The WTO suggests a possible rebound to 3.0% in 2020 – if trade tensions ease. "Trade cannot play its full role in driving growth when we see such high levels of uncertainty," said director-general Roberto Azevedo. With world trade and GDP having grown in tandem since 2008 (26%), consensus estimates put world GDP growth at 2.6% in 2019 and 2020.

Digital technology plays an important but complex role in this uncertain geopolitical environment. On the one hand, it is the cause of considerable anxiety, playing a key role in the US's complaints to China over intellectual property and national security, and Europe's anti-trust measures against US internet giants, as well as the data protection laws being introduced in Europe and elsewhere. On the other, it has already reduced much of the friction inherent in cross-border trade flows and may help goods and services to continue to move around a more fragmented globe – assuming the economic nationalist agenda does not fracture prevailing standards, protocols and frameworks.

Long-term opportunities

Natalie Blyth, global head of trade and receivables management at HSBC, does not discount the short-term risks, but takes a positive view on long-term opportunities. "We're seeing a dematerialisation of trade with a rapid growth of trade in data and services, which we expect will make up 25% of total trade by 2030. Take a drone: the most valuable part is not the physical good, but the coding lines in the flight module," she says. "Innovations in e-commerce, digitisation and distributed ledger technology are also making trade safer and more efficient."

From a tactical perspective, banks are already working closely with importers and exporters to ease their pain. As tensions rise, the cost of protecting import and export flows is likely to increase, admits Daniel Schmand, head of trade finance at Deutsche Bank, both because of the greater frequency with which firms use safer instruments such as letters of credit (L/Cs), versus open account, and because the cost of each L/C transaction will rise. Further, greater uncertainty places a premium on liquidity, which increases firms' need for working capital solutions. "Depending on the nature of a firm's geographic exposures, a further consequence of rising geopolitical tensions may be the need to expand into new markets or make adjustments to supply chains," he says.

Schmand, chair of the International Chambers of Commerce Banking Commission, also points to the ICC's blockchain-based pilot schemes as demonstrating the potential for technology to facilitate new business models and improve access to finance to SMEs. Meanwhile, HSBC is implementing full automation of money laundering and sanction checks for trade finance transactions and reducing processing times via blockchain. "Over the last 16 months, we have proved that this technology can make trade considerably faster – cutting transaction times from 5-10 days to 24 hours – freeing up valuable working capital," says Blyth.

At Coriolis, Harding is seeing some diversion of trade and reclassification of components of global supply chains, but notes that current conditions are not yet a "full-blown trade war", despite the bellicose language. "While uncertainty persists, it is hard for banks and businesses to make investment decisions. While businesses are trying to mitigate the challenges with specific measures in their sector and stronger attention to compliance detail, the fact is that this pushes up costs. That will be a longer-term difficulty to manage with substantial broader economic impact."

Weighing their options

As Harding suggests, rising hostility and uncertainty at the geopolitical level are having diverse impacts on banks and their corporate and institutional clients, reshaping organisational structures, coverage models, operating infrastructures and value propositions.

At present, Brexit is perhaps having the biggest influence on banks' organisational structures. Many UK and non-EU institutions are weighing their options up if there is, post-Brexit, no agreement on passporting rights that hitherto allowed them to access the entire EU single market for financial services from a London-based entity. For non-EU globally systematically important banks (G-SIBs), the picture is complicated by the EU's Intermediate Parent Undertaking (IPU) proposal, part of plans for the fifth Capital Requirements Directive. According to a report by London-based Cass Business School[2], 19 G-SIBs could have to consolidate all existing EU entities under a single European subsidiary that would serve as an IPU, for resolution purposes. The report says the necessity to restructure and develop new organisational models would prove "costly" and "require a long transition period", noting also plans by banks to establish post-Brexit 'delegation management' models that could allow them to select an EU-based legal entity for passporting and IPU purposes, then delegate certain tasks and functions back to established UK-based entities.

When weighing up their options, report co-author Dr Angela Gallo says banks need to recognise an underlying shift in the political landscape, suggesting strategic agility will become increasingly important. "The traditional approach to increased political risk by banks and other large commercial entities has been to postpone investment decisions until things become more certain. But now they must adapt to a permanent state of uncertainty and relinquish expectations of a return

1 Jaw Jaw not War War – Prioritising WTO Reform Options. The 24th Global Trade Alert Report (Global Trade Alert, 2019)

2 'Brexit and non-EU banks: Challenges and Opportunities', Centre for Banking Research, Cass Business School (December 2018)

Any reversal of globalisation will increase the amount of work done in pre-trade and operations.

John O'Hara,
Taskize

to political stability. We're witnessing a transition from an era of globalisation to the opposite, characterised by nationalism and populism," asserts Gallo, who will present 'Living in an Era of Political Uncertainty: Implications for Banks', part of the SWIFT Institute programme at Sibos 2019.

Banks, financial institutions and corporates may all need to build greater flexibility into their business models and operating structures, agrees John O'Hara, CEO of Taskize, a London-based workflow solutions specialist.

"If we cannot assume in future the homogeneity that we previously took for granted, we may need to revert to more federated models. The regional offices of multinational firms which were unwound during the 1990s may take on a new lease of life," he says, noting also the technology infrastructure burdens imposed by diverse new data privacy and residency laws across jurisdictions. "Federated systems are non-trivial, and firms should be looking to favour services which are clearly designed to deal with such partitioning. This need is also supported by the regulators' observation that global-scale cloud providers represent a new kind of concentration risk, which needs to be mitigated."

Adjust and thrive

Cloud computing has done much to further the globalization of finance, but the down side of cross-border data flows (e.g. cybercrime, industrial espionage, erosion of confidentiality, challenges to cultural norms) is leading not only to regulatory fragmentation, but the establishment of parallel, competing infrastructure frameworks, especially in non-western markets. O'Hara worries that bifurcation of global commerce is a real threat, but says financial service providers can adjust and thrive.

"Any reversal of globalisation will increase the amount of work done in pre-trade and operations, but increasingly assisted by digital technology, this may become a source of revenue," he suggests. "Processes to navigate legislation, to pre-check and pre-establish the parameters of deals before embarking on them can be automated if the rules stabilise. While sanctions and tariffs remain fluid, manual interventions will increasingly be required and technologies will be needed which provide venues and channels for these matters to be addressed between businesses, banks and their advisors."

A recent European Central Bank analysis[3] argues that the current tariff situation presents only "modest adverse risk" to economic growth, warning that the "medium-term direct impact of an escalation could be sizeable, compounded by heightened financial stress and a drop in confidence".

Although the report advises against a retreat from openness, it also asserts the root causes of protectionism must be acknowledged and addressed. "By encouraging regulatory convergence, multilateral cooperation helps to protect people from the unwelcome consequences of openness, and therefore remains crucial as a response to concerns about the fairness and equity of trade. The distributional and social effects of greater economic integration should also be addressed by targeted policies that achieve fairer outcomes."

3 The economic implications of rising protectionism: a euro area and global perspective (ECB Economic Bulletin, Issue 3/2019)

Geopolitics & regulation: Adapting to a new age of uncertainty

Payments: Delivering a digital future

The new A to Z of banking

Generation Z's digital natives will have different priorities from their parents when buying financial services.

It is the prerogative of every new generation to think they are markedly different from their predecessors. In the case of Generation Z, they are unique in being the first to have come of age in a truly digital world. This means they expect information, products and services instantaneously and via a mobile phone, although human interaction is preferred for advice. As a result, banks and other incumbent financial service providers are being forced to rethink their offering if they want to capture this cohort's collective imagination, loyalty and wallets.

Gen Z – born between the mid-1990s and early 2000s – accounts for 32% of the global population, making them the largest demographic in the world, according to Chloe Combi, consultant and author of 'Generation Z: Their Voices, Their Lives'. "They have grown up in the world of the internet and social media as well as in the shadow of the financial crisis and uncertainty," she adds. "There is no defined career path and those that go to university face the prospect of £50,000 in debt. This is having an impact on their financial spending."

Deferring consumption

GlobalData's 2019 Retail Banking and Payments Survey echoes these sentiments. It shows that rapidly increasing educational costs, greater job insecurity, a scarcity of well-paying jobs, and higher property prices are leading Generation Z to be more concerned with deferring consumption and taking care of financial wellbeing instead of living in the moment. This suggests banks' Gen Z customer acquisition strategies should initially focus more on promoting savings tools, instead of enticing them with credit card offers.

The findings are borne out by research which shows that one-fifth of US Gen Zers have had a savings account since before the age of 10, while a third of their UK counterparts had put away more than £1,000. Forty per cent of Gen Zers believe saving is "fundamental" for their future

> **We are seeing Gen Z adopting a cherry-picking approach versus building a relationship with one bank.**
>
> **Hiral Patel,**
> Barclays

and, according to recent Financial Conduct Authority figures, they are the least likely working-age group to have debt of any form, including overdrafts, credit cards, and loans from family and friends. The vast majority check their bank balance every day, shunning physical branches and even online banking in favour of mobile apps.

Although Gen Zers inhabit a virtual world characterised by convenience and speed, security and privacy are of paramount importance. A report from Kantar Media shows they are more concerned about protecting their online personal data than any other generation. In comparison with millennials, they are less likely to impart information such as transaction history, mobile banking activity and geolocation with their main financial institution, even in return for more tailored products and services, or personalised financial advice. In addition, they are more reluctant to disclose information with third parties, including account balances and spending history.

Banks will have to work hard and reconfigure their models, but they will be rewarded. Gen Z are expected to have serious financial clout. "We believe this coming of age is worth capitalising on now, with Generation Z in the US already having US$200 billion in direct buying power and US$1 trillion in indirect spending power, as they command significantly more influence on household purchases than prior generations," says Hiral Patel, an analyst at Barclays and co-author of 'Generation Z: Step aside Millennials'. "By 2020, Generation Z is expected to be the largest group of consumers worldwide, making up 40% of the market in the US, Europe and BRIC countries, and 10% in the rest of the world."

Stealing a march

Challenger banks are already stealing a march. Unencumbered by legacy infrastructure, they have been able to quickly launch products and features to keep pace with new demands. Typically, the challengers' service offerings share the common goals of providing affordable and transparent fees, easy to open bank accounts with access from any part of the world and an enhanced customer experience, either via mobile or through multiple access points like social media. As they mature and develop, these services are differentiating through premium subscription services, in-app 'marketplaces' that offer products from third-party providers, budgeting and individualised financial planning advice and international expansion.

Challenger banks have been making their presence felt particularly strongly in the UK and Europe. The UK's Monzo, launched four years ago, is among the fastest growing, standing out for its bright pink debit cards and an app designed to easily organise, track and save money. The firm recently debuted Monzo Plus, which offers additional services such as travel insurance for a small monthly fee.

In Europe, Germany's N26 is one of the most popular of the new breed and recently opened its virtual doors in the UK. The company provides budgeting tools, spending insights and easy payments as part of its basic current account, but also offers a Black premium account with free ATM withdrawals anywhere in the world for frequent travellers. Meanwhile, France's Pixpay, a fintech started by parents, is planning to give children aged 10-18 a mobile bank account, contactless payment cards and the option to use Apple Pay and Google Pay. Rather than handing over pocket money, parents will transfer it into accounts and have the ability to monitor the spending.

Value delivery

This of course is not the death knell of the mainstream, but longer-established banks have to step up the learning curve if they want to compete more effectively with these innovative upstarts. They will need to pay particular attention to segmentation, customisation, attitudes and insights in order to develop the right products, services and experiences. While security and cost efficiency are significant, the true appeal of digitsation is the value-add to the customer.

"When engaging with Generation Z, banks need to understand that it is no longer about value proposition – where strategy is the main factor – but more about value delivery, which is obtained through a focus on engagement and alignment," says Jean-Philippe Richard-Charman, a brand development director and MBA student at Henley Business School, Reading University. "There needs to be a deeper focus on values, and the interactions between people, i.e. relationships."

Not surprisingly, many conventional banks are forging ties with fintechs and leveraging their technology. However, as Patel points out, it is two-way street, "One of the biggest challenges for fintechs is scale and these partnerships enable them to expand their business models," she adds.

Global players are also investing heavily and developing their own digital offerings,

> **People are moving larger sums of money in transit than ever before.**
>
> **Diane Reyes,**
> HSBC

especially in the mobile app space, to attract and retain not only Gen Z, but also their predecessors, who are increasingly conducting business over their phones. "One of the problems is that it can still be a cumbersome, very manual experience to deal with financial institutions," says Julie Harris, head of global banking digital strategy at Bank of America Merrill Lynch. "Gen Z are no longer just our kids, they are now entering the workforce full-time. This population doesn't need to adopt a digital way of operating – they simply expect it. They want to do everything as cheaply, as quickly and as securely as possible on their mobile phones. These expectations are changing how banks are interacting with their customers and clients."

Diane Reyes, global head of liquidity and cash management at HSBC, concurs. "Mobile is the device of choice for Gen Z. Many are now entering the labour market and they are influencing companies in a permanent manner which impacts the capabilities that banks offer. We are seeing a blending of home and work, with people moving larger sums of money in transit than ever before, whether they are on holiday, going to the office or working abroad. They want applications to be simple and fast, but secure. For this reason, we have enabled biometric access to mobile banking in 40 countries. We have taken lessons learnt in Asia, where mobile apps are very popular, and applied them to other markets."

> **New expectations are changing how banks are interacting with their customers.**
>
> **Julie Harris,**
> Bank of America Merrill Lynch

Anytime anywhere

Reyes believes that in the future the omni-channel approach that is prevalent in Asia will be applied throughout the UK, US and Europe. This allows a customer to access their banking services, in real time, through any channel they choose, be it the physical branch, an ATM, a call centre or online. This gives customers the freedom of choice to access their finances anywhere, at any time, via any medium.

Patel believes that, given their high expectations around technology, a 'one size fits all' strategy is unlikely to work for Gen Z. Nor should incumbent banks see challengers as their only rivals in a continuous battle to retain customers. "We are seeing Gen Z adopting a cherry-picking approach versus building a relationship with one bank," she says. "However, in time I can also see bigtech firms disrupting the financial landscape as they develop sophisticated products and services."

For example, the Barclays report notes widely-publicised discussions last year between Amazon, JP Morgan and Capital One to create an Amazon-branded, mobile-friendly current account aimed at younger and underbanked customers. If successful it would allow Amazon to draw in Gen Z early, and provide the online retailer with a greater understanding of their purchasing habits as spending power rises. A report by consultancy firm Bain estimates that this type of service could garner over 70 million US customer accounts within the next five years, equalling the size of the country's third-largest bank – Wells Fargo. In a Gen Z world, it seems market share – as well as payments – can shift in real time.

← Next generation: The new A to Z of banking

→ Securities: Investor needs driving post-trade revolution

Delivering a digital future

The race is on to transform the customer experience. How will banks deliver value in the digital era?

Regulators and market infrastructure operators have spoken – and now banks must respond. ISO 20022 migrations, new open banking architectures and strengthened cybersecurity defences are planned across multiple geographies. In Europe in particular, banks are facing an unprecedented amount of mandatory change that reaches deep into their core systems and business models.

The Eurosystem's TARGET2 (T2) real-time gross settlement system for high-value payments will migrate to a new consolidated platform for all TARGET services in a 'big bang' in November 2021, affecting more than 1,000 direct participants (T2 handles 90% of the total value of high-value payments in euros). Among other changes, T2 participants will be required to use fully-fledged ISO 20022 messaging. EBA Clearing's EURO1 RTGS-equivalent net settlement system will also move to ISO 20022 in the same timeframe.

Meanwhile, the second Payment Services Directive (PSD2) is re-shaping the European payments market and opening it up to competition from non-bank providers. And in the UK, a New Payments Architecture for open banking is being introduced, the Bank of England's CHAPS will be replaced and the Faster Payments platform renewed.

Add to this mix the planned phased migration of SWIFT MT cross-border payments and cash management messages to ISO 20022 and banks really do face a tsunami of regulatory, operational and business-critical imperatives.

A common vision?

The common objectives of these plans are to open up banking to more competition, improve the speed and efficiency of payments for customers and foster innovation. The ultimate vision is for end-to-end, digitally connected eco-systems to deliver fast, frictionless payments account-to-account wherever, whenever. Value-added services based on rich, structured data carried via payment messages will enable customers to operate more efficiently and banks to build new revenue models.

Although the impetus has come from regulators, the market is coordinated and proactive in planning for the changes. For Marion King, group director of payments

We're looking at instant as the priority, market by market.

Anupam Sinha,
Citi

at UK bank NatWest, aligning the market around ISO 20022 and open banking is the major theme. "Banks and market infrastructures have a complex air-traffic control task to manage the timetables and interdependencies of changes which go deep into operational flows," she says. With one in four payments in the UK going through NatWest, she is keen that all parties get to the finishing line together, using the same standards and infrastructures.

The unstoppable momentum behind instant payments is a key challenge for banks and payments providers as they plan their transformation strategies. In the last two years, many European countries have introduced an instant payments service for their domestic market while the Eurosystem's TARGET Instant Payment Settlement (TIPS) and EBA Clearing's RT1 have made cross-border instant euro payments a reality.

Gradual adoption

Experience in the UK, which introduced its Faster Payments scheme in 2008, shows gradual but strong adoption of these payments. According to UK Finance, two billion consumer and business transactions went over the Faster Payments service in 2018, with 3.2 billion transactions predicted by 2028. NatWest's King says her bank is now seeing some business users of BACS (bulk ACH) moving to Faster Payments.

For Anupam Sinha, global head of domestic payments and receivables at Citi, instant is the future. "It's starting with retail payments but moving rapidly to the corporate world as transaction value limits rise," he says. Citi is taking the opportunity to fundamentally re-architect its systems and operating model to deliver instant payments along with a consistent customer experience across its markets in Europe and elsewhere. "We're obviously driven by market timelines, but where we can, we're looking at instant as the priority, market by market," he says. Worldwide, Citi is already connected to 20 instant payments systems and expects to add another 15 or so.

No doubt, instant is challenging for banks with a large estate of legacy systems. Deep investment is needed. Batch-based processing systems have to be renewed or replaced and customer service and compliance must be re-modelled to respond in a 24/7 environment. And then there is the increased risk of fraud. Some necessary prevention measures, such as customer authentication requirements which come into force in the EU this year, and the UK's confirmation of payee initiative, will inevitably put some friction back into the system.

Despite increasing volumes, making a business case for instant may be the biggest challenge of all. "Banks are struggling to maintain payment margins and it's clear that moving value is not of itself going to deliver a sustainable revenue stream," says Simon Wilson, director of payments solutions at Icon Solutions. Reducing operating costs (for example, by increasing processing speeds using cloud technology and partnering with fintechs) is part of the calculation. Wilson quotes one bank aiming to increase rates from 60 transactions per second to 300, while reducing total cost of ownership by 50%.

Value through innovation

Alongside efficiency gains, banks will need to harness the promise of digital and open banking to deliver innovative, value-adding services to end-customers if they are to stay in business. Success, according to Wilson, depends on focusing on the customer journey, picking the right niche markets and the right technology partners.

Citi is one of the first banks to register as a Payment Initiation Service Provider (PISP) under PSD2. Citi's Sinha says the market is currently evaluating how clients will adopt, for example, request-to-pay services. "How will it be embedded in the e-commerce experience? Clients have to be at the centre," he says.

Peers agree that much remains uncertain today. "The ultimate path and impact of open banking and ISO 20022 is not completely clear," says Sungmahn Seo, head of EMEA payments at JP Morgan. "However, these are transformational levers that, along with other tectonic shifts such as real-time payments, the rise of the app and API-driven interfaces, will drive foundational change in banking. API-enabled real-time multi-banking, AI-enhanced cash flow forecasting, virtual assistants that can answer 'where is my payment', enhanced fraud detection – these are just some of the services the future holds."

NatWest's King stresses the importance of strategic partnering to deliver well-targeted new offerings quickly. For example, Open Banking Payments by NatWest is a multi-bank, API-driven payments service for business customers which makes it easy for them to pay suppliers without using a card. NatWest's parent, RBS, is also setting up a completely new online-only bank, Bó, which will be targeted at consumers with less than £100 in savings. Bó has been set up rapidly, using cloud technology.

Trade: chasing the value

New solutions should be interoperable and bring real value for clients.

Anne Cécile Delas, Natixis

Can next-generation technologies finally bring speed and efficiency to complex trade finance transaction chains? With multiple competing digital platforms in the market, the jury is still out.

"Corporates generally take the view that disruptive technology will work best when it is ecumenical; unless it's accessible to all it will fail to provide substantial value," says Geoff Brady, head of global trade and supply chain finance, Global Transaction Services, Bank of America Merrill Lynch. "We continue to invest heavily in the global evolution of digital technology, but equally, success is measured by strong relationships, not just transactions, so our approach is always collaborative."

French bank Natixis is actively involved in several blockchain initiatives for large corporates including Komgo for commodity financing and the Marco Polo platform for supply chain finance. "So many projects are under development and so many technologies are being tried, but we are beginning to see concrete new solutions," says Anne Cécile Delas, head of trade and treasury solutions, Natixis. "The important thing is that they should be interoperable and bring real value for clients."

“Open banking and ISO 20022 are transformational levers.

Sungmahn Seo,
JP Morgan

Data services which can either be monetised, or used to drive trust and customer ‘stickiness’ are also going to be an important part of the mix – for example, providing rich information for utility contract renewals.

Just-in-time?
Given the imperative to meet the demanding timetables for business-critical infrastructure migrations such as the new TARGET services and ISO 20022 migrations, will banks also be able to match the agility of challengers and fintechs and deliver digital transformation in time?

Icon Solutions’ Wilson does not think incumbent banks have missed the boat yet, suggesting we may see a “levelling of the regulatory playing field” for the challenger banks, with established players benefiting from a trust dividend. “We will see consolidation amongst smaller players over time, but change will be gradual.”

Corporates: smarter data, faster

For all the talk of digital eco-systems, corporate treasurers are still looking for some fairly basic deliverables from their banking relationships, according to Naresh Aggarwal, associate director for policy and technical issues at the UK’s Association of Corporate Treasurers. “Treasurers are still spending huge amounts of time on such things as managing bank account signatory changes, understanding bank charges, fulfilling multiple requests from the same bank for KYC and AML data and even handling paper documents.”

Corporates are beginning to benefit from their banks use of SWIFT gpi to add transparency and certainty to cross-border payments, but that’s not the whole picture. Digital should deliver transparency on charging, real-time views on liquidity, immediate notification of incoming funds and a consistent, automated way to handle compliance data, he suggests. “For example, as individuals, we get notified when a payment hits our account, but that’s not necessarily the case for corporates. For a small company, knowing that a payment has come in may be critically important.”

It all boils down to smarter data, faster. Will digital deliver?

“Treasurers are still spending huge amounts of time on managing account signatory changes.

Naresh Aggarwal, Association of Corporate Treasurers

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Investor needs driving post-trade revolution

Integrated technology and data capabilities are needed in response to evolving appetites and preferences of end-investors.

Post-trade service providers in the securities sector are being asked by asset managers and other investment intermediaries to provide more transparency, more access and above all more data to help them meet the evolving needs of end-investors. With revenues no higher – and sometimes lower – than a decade ago, judicious investment in technology and data capabilities is an integral element of the response. For many, this is part of a fundamental business model reappraisal, with partnerships and skillsets also up for change.

The principal priorities of the buy-side have not changed. They still need to generate alpha, reduce process inefficiencies and deliver a smooth client experience. But in a hyper-connected world they are increasingly aware of the potential of data to bring new insights and efficiencies to the investment process, and to support streamlined access to a wider range of assets in markets, both remote and virtual. There is also more urgency to their needs, with passive investment vehicles, digitized wealth managers and robo-advisers offering attractive alternatives, many targeted at a new generation of investors. Asset managers' margins fell last year to their lowest level since 2008, according to a recent analysis[1] by Deloitte's Casey Quirk unit.

Appetite for data

Custody clients have an increasing appetite for data, says Tom Casteleyn, global head of custody at BNY Mellon asset servicing. The order management systems (OMSs) used by the firm's clients are becoming increasingly complex, and existing ways of exchanging data cannot

1 Margins shrink for public asset managers as fees compress, according to Casey Quirk Analysis (press release: February 7, 2019) – https://www2.deloitte.com/us/en/pages/financial-services/articles/press-releases-casey-quirk.html?icid=nav2_press-releases-casey-quirk

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Clients are pushing us ever harder on the use of APIs.

Margaret Harwood-Jones,
Standard Chartered

always handle the richness and diversity of data clients now require, nor the frequency with which they want it.

BNY Mellon has invested heavily in APIs to facilitate these requirements and is also rolling out real-time dashboards for client use. It is making efforts to integrate its systems more closely with client OMSs as well. In April, it announced an agreement with BlackRock whereby BNY Mellon's data and accounting tools are integrated with Aladdin, BlackRock's operating platform for investment managers.

Other major players in the post-trade world speak of a growing need to facilitate more granular and continuous communication with clients. "We're building a new client ecosystem through APIs. It's all about how you access and transfer data for clients. We're bringing in new services not only based on our own data but also data from third parties. It's very different from the traditional model," explains Margaret Harwood-Jones, global head of securities services, transaction banking at Standard Chartered.

One of the appeals of APIs is that they facilitate self-service. Not only are clients receiving better quality and more plentiful data, they can better interrogate the asset servicer about their positions and performance at intervals of their own choosing. As noted in a recent report[2] published by SWIFT and Boston Consulting Group, asset managers and custodians are working on numerous pilot schemes and use cases to further leverage APIs.

However, the institutional buy-side covers a multitude of different client segments, and while some have responded enthusiastically, others are more cautious. "Some clients are massively keen and pushing us ever harder on the use of APIs. Some say they are not ready. I can show you names that are best in class and I can show you others that are more hesitant. You will see tier one names on both lists," says Harwood-Jones.

Streamlining workflows
Pressure on asset servicers and custodians to operate more efficiently and cheaply is at the heart of a great many initiatives in the post-trade world. As well as competitive forces, regulatory change has also squeezed margins for asset managers – for example by requiring additional cost transparency – thus requiring securities service providers to reduce costs to retain market share. "The pricing structure in custody means we must be more efficient for our own sake as well as for our clients, as prices have not gone up," observes Casteleyn at BNY Mellon.

2 APIs in Securities Services (July 2019) – https://www.swift.com/news-events/press-releases/swift-and-bcg-say-securities-industry-ripe-for-apis

Automated solutions that deploy natural language processing (NLP), for example, can be used to route a client enquiry to the right place much more quickly and efficiently than by employing people to answer emails and phones. Previously paper-heavy processes like preparation and filing of tax forms could be handled by machines – if the relevant tax authority is set up to receive information in this manner.

The application of technology to improve information flows cannot stop with custodians and asset servicers. Having experienced the upheaval to their operations and business models from TARGET2-Securities and the Central Securities Depository Regulation (CSDR), European CSDs in particular recognise the need to shift investment priorities from regulatory compliance to technology.

A further challenge is the opening of new markets and new asset classes. For many, China remains top of that list, not least because major index providers are in the process of increasing the representation of A-shares and Chinese government bonds to their global and emerging markets equity and bond indices respectively. Post-trade service providers need to be able to assist clients in their wish to participate in Chinese assets, but this is far from straightforward. The rules around new and existing investment channels (from QFII to the more recent Stock and Bond Connect initiatives) are in flux, whilst concerns around China's beneficial owner model persist. It's a significant and ongoing exercise to keep up; the complexity of the task is not always apparent to clients.

Then there's crypto. Despite the recent bounce in the value of leading crypto-currencies, most post-trade servicers are not rushing to provide solutions for crypto users and investors. One points out that the overall market capitalisation of the top ten crypto-currencies is only around US$300 billion – half that of the most heavily valued single stocks.

Further, a highly fragmented and uncertain regulatory situation across jurisdictions contributes to something of a chicken-and-egg situation in terms of the expansion of post-trade service provision. Although institutional funds are finding an increasing number of technically sophisticated custody offerings available for crypto-assets, relatively few yet have an established track record. As long as regulatory uncertainty persists, custodians are expected to tread cautiously around the space, many maintaining a watching brief.

Single global ecosystem?
This is not to say that distributed ledger technology (DLT) has not got a role to play in the post-trade world; far from it. The digitisation of traditional assets, for example, has significant potential. While progress has been slower than expected, many believe DLT can be a game-changer in the post-trade world. By creating a single, immutable register, it could remove at a stroke the multiple layers currently involved in post-trade processes.

"DLT will improve the time and cost involved in post-trade due to the friction between disparate systems and databases by moving to single, global ecosystem where standards are common and across which people can interact seamlessly," explains Phil Goffin, head of innovation at FNZ, the Edinburgh-based wealth management platform.

It is difficult to over-estimate the potential of this technology. At present a fund transaction might pass through various iterations between the fund platform, the order originator, the fund administrator and the fund accountant. No single unimpeachable source of truth exists, resulting in risk, cost and delay.

On a DLT platform, the history and status of every trade would be visible to interested participants and there could be

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We should be allowing consumers to invest at a fractional level.

Phil Goffin,
FNZ

Breaking it down for millennials

Greater use of DLT in the investment management space could attract a new generation. Those who invest wealth regularly in the financial markets tend to be middle-aged, partly due to prohibitive costs of entry. Recent surveys[3] of millennial investment habits reflect the importance of low fees.

DLT, however, could make investment of relatively small sums financially viable. Recording new investments or portfolio changes via DLT is immediate and direct, requiring little if any human intervention, thus allowing a reduction of fees that would reshape the economics of smaller investments. These incremental investments could be made via a smartphone app, in line with Millennial and Generation Z preferences for conducting commercial transactions.

"None of these original products have been designed for a digital age. We absolutely should be allowing consumers to invest at a fractional level via their smartphones as easy as buying a cup of coffee," says Phil Goffin at FNZ.

3 https://www.visualcapitalist.com/millennial-investing-habits/

We must be more efficient for our own sake as well as for our clients.

Tom Casteleyn,
BNY Mellon

Serving the ethical investor

Both at a retail and institutional level, investors are increasingly keen to invest in a way that accords with their ethics and values. Asset managers and their suppliers must respond to maintain market share. "While arguably the concept of impact investing has been around for a long time, the term was only coined about ten years ago. We've only seen a real external shift in the visibility of and interest in this topic in the last 12-18 months," says Damian Payiatakis, head of impact investing at Barclays.

Payiatakis and his team focus on differentiating investments according to religious and ethical principles. The small matter of meeting financial goals can't be forgotten, but the ethical angle demands a new approach from asset managers.

"The idea that 'every investment makes an impact' changes the whole investment process: how we engage clients, how we choose asset managers, or how we build portfolios and report. We expect our asset managers to think more holistically about impact for both alpha generation and societal outcomes – and be able to report on these so we can share them with our clients," says Payiatakis.

no dispute about errors. Not only lower costs, but far greater transparency would be introduced and, says Goffin, a greater rigour to the whole order management process. The shift has already started. The Australian Securities Exchange (ASX) is replacing its equities clearing and settlement system with new technology based on DLT for equities transactions. The target completion date is spring 2021. SWIFT also has a part to play in this shift, with an ISO 20022 messaging channel into the new system which will enable a smooth migration for SWIFT users.

In common with many areas of the financial markets in the post-crisis world, asset servicers have to do more with less. It's not easy to square this circle, but technology innovation offers a path to survival and success.

The idea that 'every investment makes an impact' changes the whole process.

Damian Payiatakis,
Barclays

Securities:
Investor needs driving post-trade revolution

Compliance:
Inflection point

Two drivers for change in the world of FX

Complex interplay between regulation, principles-based supervision, innovation and technology is reshaping the world's largest financial market.

Clients want a more transparent and smoother process.

Brian McCappin,
Citi

Pricing will become more transparent, delays lessened, risk mitigated and messaging volumes reduced.

Phil Bowkley,
Barclays

The FX Global Code is clear about the need for timely, efficient and robust confirmation and settlement.

Alan Clarke,
ACI UK

The foreign exchange market is one of the most vital parts of the financial plumbing of the global economy. FX business facilitates global trade, cross-border capital flows, foreign direct investment and is increasingly traded as an asset class in its own right. FX is the largest market in the world with about US$5 trillion of volume traded daily in around 180 currencies, incorporating retail customers, major banks, corporations, central banks, non-bank liquidity providers, matching platforms, fintechs, trading venues, asset managers and others. FX trading is an OTC market where trades are made on a bilateral basis via over 70 trading platforms and a multitude of proprietary trading desks owned by the top banks and newer players known as non-bank liquidity providers (NBLPs).

Every day, banks allocate hundreds of billions of dollars in credit to clients – including NBLPs. But whilst some market participants see an orderly two-way market, others see a highly fragmented market beset by 'flash events' and periods of illiquidity. At the same time, new technology is changing how FX trades are executed, and promises to change post-trade work flows drastically as well. This is probably just as well given that many FX counterparties still confirm trades by email, fax or telephone. As pointed out in a recent SWIFT paper – 'The Value of Standards in the FX Market' – a large market-maker might have as many as 10,000 customers that continue to confirm trades non-electronically. To try and raise standards of behaviour and to improve operational processes, central banks are campaigning for the industry to sign up to the FX Global Code that was introduced in 2017. As such, there is a complex interplay of regulation, principles-based supervision, innovation and technology driving the future shape of FX markets.

Setting the pace
The FX front office has already significantly evolved to facilitate the shift away from a voice-driven market, and continues to innovate. The focus today is on improving the client experience, partly due to the highly competitive nature of this business. The flows involved are the typical transaction banking flow between corporate and their servicing banks, but also those between the asset manager and their custodian.

David Leigh, global head of spot FX and eFX at Deutsche Bank in London, gives the following example of new technology that can benefit the corporate client: "Our analytics look at the accounts payable and receivable in the client management system. Rather than the client working out what payments and hedges they need to do, coming to the FX desk, then sending a payment file, we can execute through an API and send the funds. This can save the client days compared to traditional execution and settlement".

When it comes to asset managers, they are no longer content to leave execution to their custodians. "This is a complicated business, involving several layers of interaction, and increasingly clients want a more transparent and smoother process more akin to the third-party execution they do every day. This means greater immediacy, transparency and automation," says Brian McCappin, global head of FX and EM rate sales at Citi in London.

"If you're a large asset manager, you can do large trades more easily than before. Our clients see greater depth, greater transparency and greater consistency," says McCappin, going on to explain that automation has taken processing times down from hours in some cases to a matter of seconds. "Margin pressure is coming together with technology to make a task significantly cheaper, quicker and also more accurate."

Simpler and faster
The same cannot be said for post-trade FX. As the FX market has evolved, additional post-trade services and manual processes have been bolted onto aged systems. "The FX Global Code is clear about the need for timely, efficient and robust confirmation and settlement. The FX post-trade process isn't a mess; but it is true to say that settlement processes today are definitely fragmented," says Alan Clarke, vice president of ACI UK, the trade body that represents traders and brokers.

Deutsche Bank's Leigh explains some of the reasons. "Post-trade systems are quite fragmented because they have evolved from a period in which operations were largely manual. Participants have built their own systems, adding on aggregation layers, amendment layers and so on. All that has created a complex post-trade landscape," he says. In addition, local rules and market structures are also a barrier to post-trade efficiency. "In Asia, we have done as much as we can to make payments efficient, but ultimately there are regulatory requirements which we have to observe."

Some expect greater use of APIs will help FX transactions become simpler and faster. "If we move to an increasingly API world, larger banks will be able to stream live rates into buy-side systems, enabling the buy-side to consume rates and execute in real time," says Phil Bowkley, global head of the financial institutions group at Barclays in London. "Pricing will become more transparent, delays lessened, risk mitigated and messaging volumes reduced."

A new standard
Technology is driving innovation, but implementation of the FX Global Code at the behest of central banks will also change the FX world. Initiated by the Bank for International Settlements in 2015, central banks and market participants – including buy-side, sell-side and end-users from 16 jurisdictions – have developed a common set of guidance for the FX market. The overall objective is to restore trust, and to give participants much greater confidence that the market is functioning appropriately. The code contains 55 principles describing recognised best practices for ethics, governance, execution, information sharing, confirmation and settlement, risk management and compliance. It sets a new standard for trading practices, and behaviours, in a market that urgently needed reform.

The code has been rapidly adopted on the sell-side, but the number of statements of commitment from the buy-side has been far fewer. This gradual adoption is however being felt due to how seriously the buy-side is taking the code. Engagement goes beyond just issuing a statement of commitment. The principles applicable to the market participant need to be identified and implemented, with firms obliged to self-monitor adherence over time.

FX Day:
Two drivers for change in the world of FX

Technology:
Enabling a collaborative model of finance

Inflection point

The rising cost of financial crime compliance is not sustainable, leading banks to explore new approaches and technologies.

The detection and mitigation of financial crime has become one of the biggest challenges facing the banking industry. Banks have responded to diverse risks and growing regulatory pressure by increasing headcount in compliance departments as well as technology spend. But extra money and resources are not enough in their own right. There also needs to be a carefully crafted blueprint, informed by a top-down culture of compliance, that ensures best practice is adhered to and risks can be managed throughout the entire organisation.

The number of high-profile fines and investigations launched over last year alone suggests that there is still a lot to be done. Financial crime has many moving parts, but from a compliance perspective, it typically encapsulates know your customer (KYC), anti-money laundering (AML) checks, sanctions and embargos. Historically, responsibility has often been devolved and fragmented, but banks are now seeking to converge their systems and approaches across these areas toward a holistic single assessment of risk.

In the last year, AML has attracted the most attention, but banks have been fined for failure to meet the full gamut of compliance requirements over the past ten years. Correspondent banking, wire transactions and sanctions violations are a frequent focus

There is increased need for real-time fraud prevention.

Patricia Sullivan,
Standard Chartered

The entire organisation needs to be responsible for combating financial crime.

Andrew Oates,
Deloitte

of enforcement actions. The US regulators account for the bulk of fines, while European banks are also facing higher charges than in the past due to the more stringent rules embedded in the updated European Union Anti-Money Laundering Directive.

It is easy to understand why battling financial crime is an uphill struggle. It is not only the sheer scale but also the growing sophistication and ever evolving nature of criminal activity and regulatory requirements. Moreover, it is hard for often labour-intensive compliance processes to keep up with instant fund transfers and mobile payments.

The pace of change is unprecedented, according to Patricia Sullivan, global co-head of financial crime compliance at Standard Chartered. "There has been an uptick in money laundering activity which can be linked to growth in cyber- or digitally-enabled crime. Payments are also moving at a much faster rate and there is increased need for real-time fraud prevention. New payment methods such as virtual assets also require new controls to be established."

Fit for purpose
Given this backdrop, industry participants believe organisations should adopt a more agile way of thinking, including better integration of teams, systems and processes under one financial crime banner. Arguments are also being made for a shift of priorities to detection and disruption of criminal activity from a historic focus on reporting to regulators, with suspicious activity filings rarely resulting in regulatory action.

"There needs to be a long-term plan to ensure a consistent approach to financial crime compliance and an operating model that is fit for purpose," says Andrew Oates, forensic partner at Deloitte. "One of the problems is that the functions are siloed into customer on-boarding, AML transaction monitoring, sanctions compliance and fraud with support provided by IT and operations teams being fragmented. The business and the entire organisation need to be responsible for combating financial crime. It is not just about the technology but also a cultural change in the way companies work."

Stephanie Marelle, head of compliance for BNP Paribas Securities Services, also believes that the industry needs to move into "the industrial age." She adds, "If you look at securities services several years ago, it was not scalable and had too many manual tasks and human interventions. This is where compliance is today. There has been significant investment in people and resources. What is needed now is compliance 2.0, which is a fine-tuning of the engine with industrialised, digital solutions, creating a seamless end-to-end processing experience."

One of the most important components is the ability to connect the data dots in a much more effective fashion. Many are still grappling with poor-quality and diverse sources which hampers data aggregation and leads to bad alerts or false positives. A report by McKinsey last year noted that many banks are still making tens of thousands of costly customers' calls every month to refresh KYC documents, updating information that is incorrect or missing in their databases.

Harnessing technology
Technology of course will be an enabler with advances in artificial intelligence, machine learning and natural language processing holding the promise of the future (see box). These are already being used in automating data collection and screening of customers, but in time they will be able to better identify complex patterns of potentially unlawful activity.

"Organisations need to implement robust strategies for the collection and management of data, and be able to pull together information sources across all financial crime activities," says Oates. "Although many use big data lakes, there are more effective cloud-based solutions that can be linked with network analytics making the information easier to understand and visualise. As for machine learning, we are seeing an increase in the application of such technology and I think it will become more important as the use cases become more clearly defined and the results become more effective."

Financial services firms are at different points in the journey, but many are also looking at collaborative industry solutions. As in other areas, these have proven particularly valuable in fostering best practice and serving as a breeding ground for innovation. "Firms need to take care of their individual infrastructure, but I also think there is a role for shared infrastructure, consortia and utilities," says Marelle. "We have seen this with SWIFT's KYC Registry as well as the regional platform being discussed in the Nordic countries."

The KYC Registry, a global utility launched five years ago, has over 5,000 financial institutions in 220 countries as participating entities. It provides a global

Counting the cost

According to US consultancy and advisory firm Duff & Phelps' Global Enforcement Review 2018[1], the US accounts for the vast majority of fines imposed by financial services regulators. Overall, fine totals rose from US$20.5 billion in 2015 to US$26.5 billion in 2017, with US$8 billion levied in the first half of 2018. The share of these fines imposed by US regulators was 95% in 2017, and 96% of the overall sum since 2013, the report said, noting "large US fines are also frequently levied against non-US headquartered firms".

A separate study of penalties for AML, KYC and sanction violations from 2008 to 2018, by compliance service provider Fenergo, found that US regulators accounted for nearly 44% of all global AML/KYC fines, but almost 91% of the total value levied over the period.

1 https://www.duffandphelps.com/insights/publications/compliance-and-regulatory-consulting/global-enforcement-review-2018

standard for correspondent bank data and documentation, validated independently and housed securely. As for the Nordic platform, six banks including Nordea Bank, Skandinaviska Enskilda Banken, Danske Bank, DNB, Swedbank and Svenska Handelsbanken are joining forces, aiming to use advanced data management technologies to enhance the collection and management of bank customer information.

However, market participants would like to see even more cooperation between banks and beyond. The appeal of shared utility platforms is being supported by maturity of APIs and cloud-based service provision, whilst more countries are developing frameworks for information-sharing across the public and private sectors. "Due to the increase in number and complexity of the sanctions regulations, banks have to respond quickly and have tailored controls and processes in place," says Sullivan. "They also need the expertise to provide guidance on how we can avoid conflicts of laws, as other countries issue sanctions outside the US. To fight financial crime and some of the bad acts that may lead to sanctions, it can be more effective at times to share information and intelligence across the industry as well as with law enforcement agencies."

Change of mindset

There are also calls for a change in the regulatory mindset, partly because the prevailing approach of regulators leads to banks being focused on meeting the rules rather than truly innovating. Tom Keatinge, director at the Centre for Financial Crime & Security Studies at the Royal United Services Institute, believes supervisors need to take a more forward-looking approach.

"Some banks may need to remain in special measures much longer, but there are those that can be supervised differently than they were ten years ago," he says. "Many are running compliance programmes for compliance sake. The incentivisation is lacking for banks to run a parallel system that uses data and technology more effectively to prove there is a better and more intelligent way to produce higher quality information that would support or trigger investigations more effectively. Encouraging innovation would in turn lead to more meaningful change."

There is a role for shared infrastructure, consortia and utilities.

Stephanie Marelle,
BNP Paribas

Machine-led compliance?

While there is a lot of discussion about the use of AI in fighting financial crime, the main focus today typically revolves around machine learning and natural language processing. Together, they have the ability to mechanise manual tasks, enhance onboarding processes and improve outcomes from sanctions screening, fraud detection and AML systems.

In KYC, for example, AI can automate the creation and updating of the client risk profile to ensure continued compliance throughout the client life cycle. The technology also enables banks to scan vast amounts of data to identify patterns and thus discern a possible money laundering threat from a sudden but legitimate spike in overseas transactions. Further, AI can learn from previous human investigations to ensure accurate decision re-application and to create new methods to suppress or remove troublesome false-positives. A recent report by McKinsey notes that machine-learning algorithms can help reduce the number of false reports by 20% to 30% while the manual work required can be cut by as much as 50%.

←
Compliance:
Inflection point

→
Innotribe:
Understanding trust

Enabling a collaborative model of finance

> **The lifeblood of wholesale banking and payments is data.**
>
> **Tom Durkin,**
> Bank of America Merrill Lynch

Cloud and APIs are central to banks' efforts to deliver the data-driven, frictionless services demanded by wholesale clients.

Wholesale finance is seeing a large-scale transformation, as corporate and institutional clients step up their demand for 24-hour access to services ranging from trade finance to cash management to foreign exchange to securities services.

For banks, delivering this level of support requires a technology framework that can capture and store the data clients need and deliver it in a way they can easily process. To allow customers to make decisions with ever greater speed and efficiency, banks are increasingly reliant on application programming interfaces (APIs) which facilitate the exposure of data and services to various internal and external systems.

"The lifeblood of wholesale banking and payments is data, it runs through everything," says Tom Durkin, global head of digital channels at Bank of America Merrill Lynch. "Clients who are looking to extend their supply chains globally want to harness more power from the data we provide. We are moving to a point where clients use new technologies which they may look at as disruptive, but we embrace. For example, API integration helps to leverage data; embrace it, harness it, and use it to become more predictive versus reactive."

Building connectivity is key for the strategies of many wholesale banks, not only in terms of their client-facing activities, but also with respect to collaborations with other financial services providers and technology partners.

"We see huge opportunities for corporate clients to use APIs to connect with the banking landscape and also in how banks integrate with external developers to facilitate connections," says Michael Gorriz, group chief information officer, Standard Chartered. The bank's securities services division offers customers access to their holdings information via APIs, while 50 corporate clients are accessing real-time FX, balances and payment initiation through APIs, allowing for faster decision-making. "The pipeline of customers interested in using APIs is growing fast. At the same time, we

> **The offerings of major cloud vendors are well developed and provide robust controls.**
>
> **Michael Gorriz,**
> Standard Chartered

have seen the demand for cloud services growing in tandem with the adoption of APIs," he adds.

Gateways to growth
The development of APIs in retail finance has been driven in markets across Europe and Asia by a direct supervisory push towards open banking, with regulators mandating adoption of standardised APIs in order to facilitate competition between incumbent firms and challengers. While industry experts say API adoption would help compliance with regulations which require the transfer and reporting of data, such as Europe's Central Securities Depository Regulation, there has been no equivalent regulatory diktat to open banking for securities services or cash management businesses.

"There is a good opportunity here for APIs to facilitate the system-to-system, straight-through processing that we are all looking for," says Paud O'Keeffe, global head of client digital experience at BNP Paribas Securities Services. "There is potential to increase efficiency, improve customer experience and speed up processing. A lot of firms, ourselves included, have invested heavily in the core building blocks, including data governance, data quality, data lineage, and security."

Further evidence suggests the securities markets are ready to catch up with the payments sector. A study by SWIFT and Boston Consulting Group published in July 2019 found that awareness of APIs amongst asset managers grew from approximately 46% in Q1 2018 to 72% in Q3 2018.

"There are more pilot schemes and use cases than before, particularly between asset managers / asset owners and their custodian banks," the study noted. "It is in this corridor that we see the lowest levels of post-trade straight-through processing and automation today, and as post-trade adoption is driven by commercial rather than regulatory pressures, it is perhaps not surprising that API solutions have gained the most ground here."

"APIs are really the key to enabling digital conversations between systems," O'Keeffe says. "When you ask a question, you get an answer, you can query that again and get more information. It's not the one-way traffic of sending a file at a certain time, it's the kind of interaction our customers are looking for."

This enabling capacity offers strong commercial imperatives to address API adoption, but moves to encourage greater interaction and interoperability can encounter some familiar counter-arguments.

> **APIs are the key to enabling digital conversations between systems.**
>
> **Paud O'Keeffe,**
> BNP Paribas

Moving on from on-premise

Legacy systems have historically been deployed on-premise, making the adoption of cloud a change of model as well as of the systems themselves. Determining where and when to apply each model must be based on the advantages and practicalities.

Standard Chartered's Gorriz says, "We adopt a flexible strategy that combines the best of legacy, on-premise tech with private and public cloud services. This gives us optionality in terms of speed, scalability and cost efficiency."

This optionality is made more necessary by the global nature of the bank's business, which makes the ability to comply with local regulatory requirements for hosting personal data an important consideration. Combining API and cloud approaches gives banks real flexibility over which legacy platforms they maintain or replace.

BNP Paribas' O'Keeffe says, "Every organisation still has some legacy systems. If you build APIs onto those systems you could look at getting data into a centralised source, or potentially there are new innovative approaches for legacy systems that are already message-enabled to deliver messages via an API in the future."

"About five years ago, ISO standardisation in XML for payments and SEPA led to questions about supporting industry standards; wouldn't standards potentially help a client leave Bank of America and move to a competitor bank?" explains Durkin. "There has to be better reasons for a customer staying than it's too hard to leave. Instead, you focus on differentiation through data, the value add, the client experience. There is value to industry standardisation and we have been supporting that in terms of working with banks in our peer group."

The industry-level conversation around greater API standardisation to drive down cost and complexity involves SWIFT and is ongoing.

"Over time, and as more banks start to invest in these technologies, we will develop standards together," says Umar Farooq, head of digital treasury services and blockchain at JP Morgan. "We have had an incredibly useful dialogue with peers across the globe about developing API standards, for example. We'd expect that kind of dialogue to continue."

Cloud evolution
Rapid and responsive deployment of banking services is also contingent upon the further development of flexible cloud-based services which meet client needs on an on-demand basis.

We have had an incredibly useful dialogue with peers about developing API standards.

Umar Farooq,
JP Morgan

Cyber risk with distributed ledger

For banks, the opportunities for efficiency offered by technology innovation in a hyper-connected world are inevitably offset by concerns about cybersecurity. New models, such as distributed ledger technology, can create lightweight shared transaction layers across multiple parties. These can remove the need for post-trade reconciliation between firms and allow transactions to be automated, conditional upon specific rules.

In its 2017 paper, 'Banking on Blockchain: A Value Analysis for Investment Banks', consultancy Accenture suggested firms could find savings of over 30% across middle- and back-office functions while cutting compliance and operations costs in half. But, among the potential concerns, questions remain about security aspects of blockchain-based initiatives, such as the control of access to end-points.

"There are always risks associated with new technologies," says JP Morgan's Farooq. "Crucially, any new technology needs to be fully evaluated from a cybersecurity and controls perspective. To this end, our innovation and emerging technology teams work very closely with our cybersecurity and controls partners to ensure that we understand and mitigate any risks."

"Cloud technology enables a significantly higher level of agility in developing and deploying new applications," says Farooq. "The primary impact is the ability to react to client needs a lot quicker, and have a shorter go-to-market cycle for new products. APIs are having an equally transformative effect on how clients utilise products and services; they allow them to connect with their transaction banking and securities services providers using a much broader set of tools – like ERP systems, treasury management systems (TMSs) and in-house platforms – rather than being limited to a bank's web portal or dedicated file exchange systems."

The provision of massive cloud architecture by firms including Amazon, Google and Microsoft has allowed services to become standardised, tried and tested. Cloud-based data services can be offered by both dedicated providers – allowing users a repository for data and service provision – and software firms, which are delivering their technology via cloud-based 'as a service' models to increase efficiency and adaptability of deployment.

Pay-as-you go cloud service providers offer firms cost-effective scalability by making their infrastructure more elastic, while software-as-a-service promises flexibility as well as minimising the need for a local footprint, installations and maintenance resources. "You won't find an ERP or TMS vendor talking about their new on-premise application," says Durkin. "When a corporate is choosing new capabilities, they are presented with cloud-based models."

Banks of all sizes are weighing up their existing capabilities. "For cloud infrastructure and services, the technical offerings from the major cloud vendors are well developed and provide robust controls, comparable to most corporate data centres. Speed of adoption will be determined by business model and operational changes, as well as regulatory requirements," says Standard Chartered's Gorriz.

Banks that are deploying API and cloud technology effectively will be able to create real advantage for their clients, Durkin argues, reinforcing the relationship between wholesale financial service provider and customer.

"The opportunity for corporates is to improve their working capital, their integration with their banking partners, the connectivity between the corporate, their treasury management system, and the data their banks provide," he says. "It can move them from looking back at past activity, to looking forward to where they are going and how to get there more efficiently."

Sibos Big Issue Debates 2019

TUESDAY 24 SEPTEMBER 11:00

The future of Banking

TUESDAY 24 SEPTEMBER 14:00

Cloud, AI and privacy: Building blocks of a universal collaborative platform

WEDNESDAY 25 SEPTEMBER 11:00

Have new business models created a perfect cybersecurity storm?

WEDNESDAY 25 SEPTEMBER 14:00

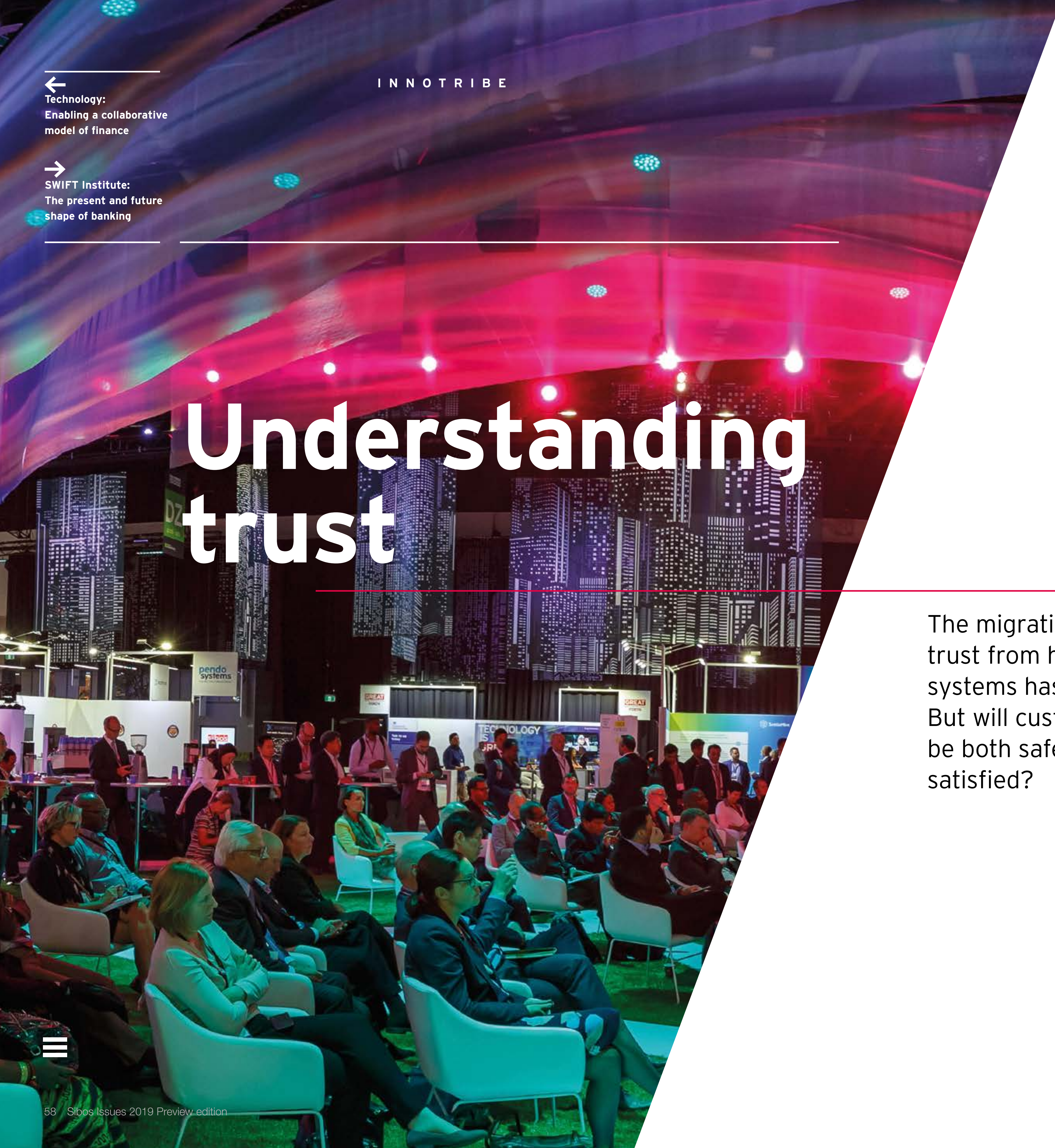
Navigating an era of renewed great power competition – new challenges for countries, markets and investors

THURSDAY 26 SEPTEMBER 11:00

Banking perspectives – understanding the next generation of customers

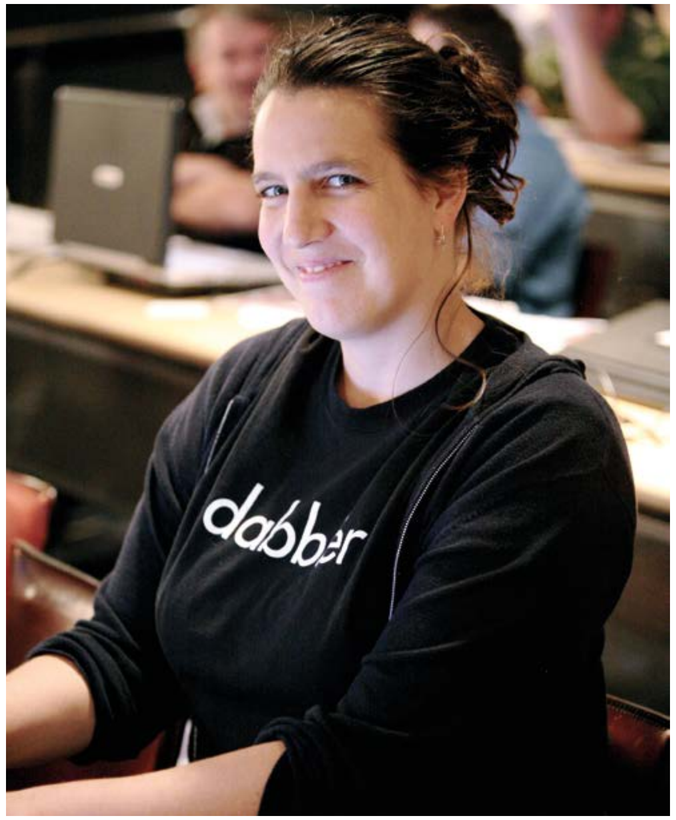
Technology:
Enabling a collaborative model of finance

SWIFT Institute:
The present and future shape of banking



Understanding trust

> **We need better digital tools to establish trust.**
>
> **Kaliya Young**
> a.k.a. Identity Woman



The migration of trust from humans to systems has begun. But will customers be both safe and satisfied?

You can't get closer to the future of finance than the Innotribe stage at Sibos 2019. The week begins with a discussion of identity – tomorrow's crucial enabler for banking services – and we'll also talk about trust in the digital age. Our focus on the future will encompass discussions on the future of money, currency, humanity (and trans-humanity), technology, security, privacy – and on the potential transformation facing banking itself.

The future is full of opportunity for banks, because the future rewards flexibility, creativity and, crucially, the capacity to maintain established values while embracing change. Banks have displayed all of these qualities over the centuries, but that isn't an argument for complacency. Another of the week's take-aways will be simply this: applied innovation affects everything. "I'd like to avoid the notion that we are on an advancement journey wherein more technology solves problems in relation to money and finance," says James Lloyd, partner and fintech and payments leader for the Asia-Pacific region at EY, who will moderate Wednesday's 'Future of Money' session.

Sharing the map

Don't just pick up on a new tech and think you've moved forward. We're on an advancement journey, to borrow Lloyd's phrase, on which we're sharing the map with our customers – and increasingly, they're the ones who know which way they want to go. "As we move towards more digital solutions, clearly anonymity, privacy, data ownership are the big topics right now," Lloyd continues. They're our customers' issues. So much of modern commerce is driven by data, but so much of that data belongs to customers. And increasingly, customers know that – and don't necessarily like it.

That's our first opportunity, but it's one that we can only grasp, paradoxically, if we find ways to innovate around our traditional role. "Banks have been the arbiters of trust for a long time, but with the advent of the internet, as well as the growing compliance burden of AML/ KYC checks, we need better digital tools to establish trust," says speaker Kaliya Young, a.k.a. Identity Woman, co-founder of the Internet Identity Workshop and co-author of 'A Comprehensive Guide to Self-

Why is consumer authentication going backwards while e-commerce is going forwards?

Eric Sachs,
Google

China is setting the standard for innovation globally.

Pascal Coppens,
nexxworks

Join the conversation

You don't just attend Innotribe; you live with it; you take it home. Every day at Innotribe, there's a Curated Networking session in the Discover Zone, to give you the opportunity to meet the day's speakers, network with other delegates, and form the relationships, perhaps even forge the strategic partnerships that will take you forward into the future. Curated Networking builds on the principle that some of the most rewarding conversations at Innotribe happen after a session, later in the day – after a time for reflection, during which questions can be formulated. Attend the day's sessions – then come back later with your questions.

Curated networking brings together speakers, subject experts, delegates, thought leaders, innovators and representatives of the fintech community in a relaxed atmosphere that is itself conducive to the generation of ideas. Practical innovation does, after all, depend on the open exchange of ideas and insights. Come and network with Innotribe. Join the conversation. Make it your own.

Sovereign Identity'. "People assume that trust is about facts. It's not, at all," Young continues.

We rely on facts; we mine data. But we neither secure nor enhance our customer relationships solely by those means. What is our customers' perception of us, if we reveal knowledge that hasn't been disclosed to us, but that we've worked out from analysing their personal data? If we detect spending patterns consistent with a life-changing event, for example, but we send in our relevant product offering before the happy news has been shared, does that make us a welcome and trusted partner in the couple's intimate relationship? Or not, do you think? Making a serious point lightly, Young adds: "I'm going to explain how the new technologies work, so that nobody has to take it all on trust."

Two out of three
What of the future opportunities that await bankers who have secured – and optimised – their relationships with their customers? We'll hear from Eric Sachs, product management director, fulfilment, Google, on how most effectively to connect with our customers in the future. "I'll talk about the triangle of privacy, security and usability. Today, it seems as though you can only have one of those, two at best," says Sachs. How do we achieve three? We can respect our customers' privacy – using new technologies to establish the 'old' virtue that is trust – and we can maintain security. But usability – meaning accessibility, flexibility, choice and control – is the necessary basis for an enduring relationship.

"Over the past twenty years, there have been a lot of improvements in e-commerce from the end-user perspective. But if you look at what it takes for consumers to log in, that's getting worse. Why is consumer authentication going backwards while e-commerce is going forwards?" says Sachs. Trust is the underlying theme here, but the question is immediate and practical: whether or not for e-commerce, how do we authenticate the customer of the future, without trying their patience? And once we've achieved that, in the changing, distracting commercial world of that future, how do we innovate the services to hold their attention?

By embracing the new? Yes, but you can't expect a smooth ride. Glen Fernandes, group strategy, Euroclear, says: "Regulators are looking at this. How can we enable innovation by providing the right sandboxes and tools, the right guidance, and by reviewing existing regulations, but at the same time, how do we ensure that we're not causing disruption, or creating additional risks, in the process?" Innovation necessarily takes us away from the familiar. Discussing his own approach to innovation, Sachs says: "For every nine mistakes, there's one success, and I think that's where most of the industry's success has come from. You have to find ways to be able to experiment, and perhaps fail, or you can't move forward."

A balance must be struck. We have to protect all that's valuable about banks and banking, but we also have to open up to experimentation and change. On Tuesday at Innotribe, we'll also hear a detailed account of how one market is changing, and how one possible future is manifesting itself, today, in Asia. "China is setting the standard for innovation globally. I will talk about the speed and the scale of the transformation that China is going through, and I'll also talk about why," says Pascal Coppens, innovator, nexxworks, and author of 'China's New Normal'. "Consumers want more. It's the economy; the people want a better quality of life, and they want it now," he says. As we'll hear, China is a market where innovation is accepted and encouraged.

Contrarian arguments
So much of the global future will be driven by the consumer, the customer, the end user. At the core Future of Money session on Wednesday morning, we'll find out what's happening to the basic ingredient. Later in the day – the future of money is too big a topic to be contained in just a single session – there'll be a session on AI and its governance, and how AI impacts trust. Later, just when you thought it was safe to assume you'd heard everything, there'll be a "truly contrarian, fast-paced, wild-west-style debate salon session to address the nuances of not just identity, but humanity, the future of money, privacy and security". Don't miss 'Contrarian arguments: payments are just a killer app for identity', Innotribe's first scheduled argument.

> **Anonymity, privacy, data ownership are the big topics right now.**
>
> **James Lloyd,**
> EY

Discover for yourself

If you want to find the future, head for Innotribe. But be sure to take in the Discover Zone on the way. Don't miss the Discover Stage, where there'll be a structured programme of talks by fintech innovators and thought leaders, further developing themes discussed at Innotribe, and make time to visit the Discover Pavilions, where you'll find accelerators and industry trade associations showcasing a number of fintech brands. The Discover Zone is all about the demonstration and practical implementation of future-proofed innovation.

There'll be the banks' own innovation labs – don't miss those demonstrations – and in the Discover Park, there's space for 100 fintech firms offering expertise in fields ranging from cybersecurity, machine learning, AI, big-data management and analysis, to blockchain, cash management, supply-chain management and regtech. Innovators all, these are the people building the future. The Discover Zone at Sibos is the meeting place for stakeholders from across the financial services community; it's where decision-makers go to find innovative partners who can help them develop customer solutions for a digital-first, data-driven world.

But what of the future of money? What impact will future changes have on physical cash, virtual cash, fiat currencies and other units and tokens of value? Are we heading for pure digitisation? Not necessarily. Lloyd says: "What are the scenarios in which you would wish to retain anonymous payment methods? Do we see a world in which every transaction is not only digitised, but also mined for information?" But Lloyd is keen to balance potential upsides with the potential downsides. For example, moves away from cash to e-money – wherein people and businesses gain an electronically-verifiable transaction history – in developing markets has huge potential to bring people on to the formal financial grid.

Or a world in which privacy itself is an asset? Young says: "I see a world in which banks could go into the data-banking business. The money in my bank account is mine, not the bank's. Part of the vision is that data about me is stored in cloud services that I control." Who could we trust to store our data as well as our money?

← Innotribe: Understanding trust

→ Standards forum: The great payments evolution

The present and future shape of banking

This year's SWIFT Institute programme shares diverse insights from academia, focusing on transformation, technology and talent.

For thought leadership on the critical issues facing us at Sibos 2019, start with some rock'n'roll at 9am on Monday morning. "Our first session – 'From rock star to rock band: collaborating with competitors' – will really set the scene for the week," says Peter Ware, director of the SWIFT Institute.

The session will be led by Keith Bear, a fellow at the Cambridge Centre for Alternative Finance at the Judge Business School, University of Cambridge, and it will address the range of fintech-driven changes currently impacting the finance industry. To survive in today's complex global financial world, we need to combine collaboration with competition; we need to master the art of smart partnering. And we need to do much more besides.

To be a banker today is to face a multiplicity of challenges: from geopolitics, through regulation, to diversity, artificial intelligence, blockchain, real-time platforms and perhaps also the 'noise' generated by advocates of solutions that are exciting, compelling, yet sometimes cost-heavy and not yet fully proven.

As we've come to expect, the SWIFT Institute is bringing to Sibos 2019 many of the keenest minds from academia to deliver their research, their insights and their independent views on the present and future shape of cost-effective, competitive, collaborative, customer-friendly, secure and profitable global banking. There's even an opportunity to meet tomorrow's leaders today; don't miss the 'Student Challenge' and 'The Ethics & Trust in Finance Prize Nominees' sessions on Talent Thursday.

You're also invited to lunch. Every day's Lunch & Learn session will take an in-depth look at a topical issue, with intellectual and nutritional sustenance provided. On Monday, 'Financial market infrastructures – the bigger picture' heads the menu, and on Tuesday, the SWIFT Institute is serving a "realistic and pragmatic" analysis of blockchain. We've heard a lot about blockchain as a solution; what problems are we trying to solve that need blockchain? Come and find out.

Wednesday's Lunch & Learn session takes us into the realm of 'bad money'. Kristin van Zwieten, Clifford Chance associate professor of law and finance at the University of Oxford, will present new SWIFT Institute-sponsored research mapping the shadow payments system: how big is it; what are its business models; does it present a viable alternative to bank-based systems?

On Thursday, Lunch & Learn will address gender diversity. New SWIFT Institute research will give us insights into the progress that the finance industry has made on the issue. The session will compare and contrast London and Frankfurt, two centres with different approaches – and outcomes.

The SWIFT Institute sessions at Sibos 2019 will all be presented by one or two speakers, a diverse group of thought leaders all speaking in a lecture format – with one notable exception. Monday afternoon's session – 'Data science and the future of banking' – will be a panel discussion. How can banks most effectively use data science? The session will be moderated by Mark Kennedy, associate professor and director of Imperial Business Analytics at Imperial College Business School, and the panel will include one member who isn't there. Chris Philips, senior vice president for technology corporate systems at Royal Bank of Canada, will attend as a hologram.

That's the future, perhaps. See you there.

←
SWIFT Institute:
The present and future shape of banking

→
Women of the World:
Put gender on your Sibos agenda

The great payments evolution

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I see an opportunity to become faster and more precise in flagging risks.

Jean-Francois Mazure,
Societe Generale

Adoption of ISO 20022 in the payments sector will lay the foundation for a new generation of data-rich services.

The global correspondent banking network and the cross-border payments industry at large is facing a huge change in how it operates, as the deadline for the migration of payments messages to the new global standard language – ISO 20022 – moves into focus.

By November 2025, more than 10,800 banks in 200 countries will have changed the language and the rails of the correspondent banking business. For many, that journey is already under way. High-value payment market infrastructures in the reserve currencies have already announced their plans to move to ISO 20022, most by 2021/2022. Bank-to-bank payments are to go through the same transition, starting as early as November 2021. To achieve this, planning needs to commence in institutions as soon as possible.

Strategic planning
To prepare for ISO 20022, each bank needs a clear strategy that takes into consideration the wider aspects of such a project, including the benefits and consequences, as well as the risks associated with the move and their approach to making the required changes.

“The first thing that banks have to do is to describe all the activities, tools and processes that will be affected by this migration,” says Jean-Francois Mazure, head of cash clearing services at Societe Generale. “It is a global assessment. We have to set up a central team in order to ensure that no activity is missed.”

Gaining commitment from senior management is important to project success at an early stage. “It is vital to not only inform but to involve senior management to secure the necessary prioritisation and commitment to the project in terms of resources and budget,” says Paula Roels, head of SWIFT and market infrastructures at the Global Transaction Banking division of Deutsche Bank. “Securing resources, and in particular ISO 20022 experts, will be one of the big challenges.”

Getting the resources and a solid plan in place as soon as possible is important because the deadlines for implementing the new standard are coming up quickly. While the final deadline for migration of 2025 may seem a long way off, the November 2021 deadline reflects far more than a simple ‘soft launch’ of the initiative.

“In Europe, we are actively supporting the adoption the new standard,” explains Dimitri Pattyn, head of market infrastructure development at the European Central Bank. “We have embedded it in the renewal of our real-time gross settlement system (TARGET2/

We expect corporates to be the biggest beneficiaries.

Paula Roels,
Deutsche Bank

It is a really good time to assess your current state across technology, processes and people.

Chris Jameson,
Bank of America Merrill Lynch

T2S). Any bank that is active in Europe will have to do the necessary adaptations to its legacy systems in order to be able to use the new system from 2021."

The technological aspect to ISO 20022 migration is one of the obvious considerations but, as usual, there is a people aspect to understand as well.

"One practical point is that SWIFT's MT messages are people-readable," acknowledges Chris Jameson, head of FI sales for EMEA, Global Transaction Services at Bank of America Merrill Lynch. "The XML messages, in MX format, won't be as people-readable or naturally familiar as the legacy MT messages. As a result, the industry will need to spend significant time training people to understand how to respond in the future to client queries with the XML format."

Considerations for 2021-2025
While the initial ISO 20022 service will launch in 2021, there is a four-year window where conversion services – translating ISO 20022 messages to MT – will be available. It is thought that smaller banks in particular may look for a tactical solution for a period of time. However, taking this approach can potentially put banks at a disadvantage.

"If you are an intermediary service provider and are using a tactical solution, you will no doubt face an issue," explains Roels. "You still must get the initial information to your customer. If you only have a tactical solution in place, you will only be able to deliver a limited level of data in the legacy format. In this case, you would risk not providing all data to your customer. This could be crucial for compliance, sanctions screening, or even in terms of preventing fraud."

Societe Generale's Mazure also notes the competitive implications of any migration strategy. "If you don't act now and you let your competitors get ahead of you on this migration project, you put in danger your market share and the influence you hold with your clients," he observes. "New products and services based on ISO 20022 can be developed by banks and vendors for clients. The migration period offers those banks that make the first move the chance to give their clients an enhanced experience."

Additionally, while taking a step-by-step approach may seem a sensible way to spread the cost over a number of years, this could actually increase the overall cost for institutions.

"With migration to ISO 20022, we know that the more you spread the effort, the more costly it might be," says the ECB's Pattyn. "It is difficult to put in place bits and pieces of a migration across a timeline of four to five years. We advise against this approach. Its looks easier, but in the end it is more costly."

Importance of community
But no bank should bear the weight of migration alone. According to Roels, the challenges posed by the adoption of ISO 20022 – in terms of budget, IT resources and all the business models in scope – require a unified approach by the financial community.

"This requires working with market infrastructures, with the banking industry globally and with SWIFT to define the payment standards, and it also requires all the other functions in an institution to work together and enable those that represent the industry to actually consider their aspects as well," she says.

SWIFT's role in bringing together the different stakeholders is particularly significant says Roels, citing the formation of the High Value Payments Plus (HVPS+) and the Cross Border Payments and Reporting (CBPR+) working groups. "These consist of large banks, country representatives and market infrastructures around the world," she explains. "We are using the unique opportunity of the migration to streamline processes and market practices to be able to deliver to our corporate customers a payment format that works no matter who they are dealing with globally."

Corporate clients also need to be brought in on the migration project to ensure they achieve the benefits predicted by Roels. For a bank to deliver structured counterparty information for the creditor, i.e. the counterparty of its customer, the bank needs that information from its client. Therefore, banks need to explain to corporates the level of information they need to execute payments after the migration.

Benefits of ISO 20022
While the scope of the change is huge in terms of time and resources it will demand of all banks, it is important to keep in mind the benefits that the change in payment message format will bring.

"This moment is a great catalyst for infrastructure investment within banks," says Jameson. "It is a really good time to assess your current state across technology, processes and people, and to consider how to simplify and improve the architecture while continuing to ensure resiliency across technology platforms. It is a great opportunity for banks to drive change."

Another benefit is the impact ISO 20022 will have on straight-through processing (STP). "ISO 20022 comes with a granular model to transmit all the data that you require, in a very structured manner," says Roels. "This is important because today, while we have a high STP rate – at Deutsche Bank it is around 98% when processing a payment – there is still a potential hit rate related to transaction due-diligence that requires intervention. This could exceed 10%, or even 15% in certain markets."

While a bank may still be able to process the payment, the data it is delivering via the current standard is often not sufficient to allow banks to carry out due diligence of a payment in a fully automated manner. ISO20022 has the potential to resolve this market-wide problem.

"In terms of compliance, ISO 20022 should make it simpler to find the information we are looking for concerning the parties involved in the payment," agrees Mazure. "It could be that after migrating we initially see a rise in sanctions alerts because of the richer information the new format provides. If this happens, we will be better off for it. In the longer-term, I see an opportunity to become faster and more precise in flagging risks."

The richer nature of ISO 20022 messages also offers the potential for banks to develop new services for customers. "Talking to corporate treasurers, the biggest pain point for them is still reconciliation," says Roels, noting limitations in the formatting and level of detail provided by banks in statements. "Once the migration is complete, we expect corporates to be the biggest beneficiaries. This is creating a single standard for all types of payments, and at the same time it will deliver the information for reconciliation and liquidity management that the corporate treasurer requires in a fully structured and automated way."

"The possibilities for the client are significant here," agrees Jameson. "The richness of data, such as tax and regulatory information, is the type of data that you just can't get through today's MT messaging format. This opportunity is something to support and be excited about."

←
Standards forum:
The great payments evolution

→
Spotlight stage:
Lights, camera, action

Put gender on your Sibos agenda

All are welcome to our second annual networking event aimed at recognising and supporting female leadership in the finance sector.

Following the success of the inaugural event at Sibos 2018 in Sydney, we hope you will all join us on Wednesday for this year's Women of the World (WOW) networking evening.

Essentially an opportunity to celebrate the achievements of women in finance and to encourage the next generation of female leaders in the industry, this year's event brings together a number of elements designed to inspire and motivate. As in Sydney, there will still be plenty of space and opportunity to broaden and reinforce your network and share experiences in a relaxed atmosphere.

The event will kick-off with a short welcome speech – reflecting on her success in the traditionally male-dominated world of comedy – from Sandi Toksvig, equality activist, broadcaster, writer and presenter of The Great British Bake-Off, one of the highest rated shows on UK television. As chair of the high-brow BBC quiz QI, it's very possible that Sandi already knows everything about Nina Simone, Agatha Christie, Rita Levi Montalcini, Ada Lovelace and Wu YiFang. But for the rest of us, the careers of these five pioneering women will provide the physical backdrop and motivational context for the evening, their stories illustrating the barriers women have faced in forging ground-breaking careers across diverse fields.

In addition, WOW will offer opportunities to chat with today's female pioneers within the finance sector as well as those hoping to follow in their footsteps. SWIFT has reached across its community to invite women recognised as role models in the industry, many having already successfully navigated the tough competitive landscape of the City. They will be joined by the first cohort of scholars from the STAR (Sibos Talent Accelerator Route) programme, launched at Sibos 2019 as part of SWIFT's strategy to support the female talent pipeline in finance.

The initiative is designed to encourage and facilitate the next generation of female leaders in the finance industry by providing women in junior and middle management positions with opportunities to expand their networks and expertise. For the launch, 30 banks have been asked to nominate a high potential, ambitious female employee to participate, including a free full week pass to Sibos and a dedicated programme, tailored to the interests of the individual participants.

> The most necessary change is that of mindset.
>
> **Martina Gruber,**
> Clearstream

Range of perspectives

Martina Gruber, member of the executive board of Clearstream Banking and head of relationship management for Northern Europe, CEE and CIS, says events such as WOW provide an important opportunity to build informal networks and to share experiences. "Women who are in the earlier stages of their careers can learn a lot from hearing about how more senior women grew into their roles," she says.

Gruber sees the need for gender balance in terms of productivity and performance, noting the evidence now abundant in academic studies. "Companies can derive significant value from ensuring that a range of skills and profiles are represented at senior levels. We all have a natural tendency to hire people similar to ourselves, but a range of perspectives is more effective in positioning the firm competitively over the longer term," she observes.

Whilst the finance sector has made progress in recent years, Gruber suggests the industry could do much better. "At Deutsche Boerse, 29% of mid-level staff are women, but we strive to do even better and are working consciously to improve," she adds. "We can bring diversity KPIs and targets into the appraisals of senior managers, but I think the most necessary change is that of mindset. That means buying into the idea of drawing in and promoting talent from the other 50% of the population."

Alongside these policy changes, Gruber adds that all firms could do more to recognise the practical realities of modern life, and make better use of the opportunities afforded by today's technologies.

"An important way in which companies need to change is to use technology to grant parents the flexibility they need around childcare. We all have complicated domestic lives at times and now we have the technology to allow all staff the flexibility to leave work at 5pm on some days or work from home on others," she says.

Achieving balance

In recent years, SWIFT has initiated or supported a number of programmes focused on increasing gender diversity. In 2017, SWIFT launched Women in Cyber to address the underrepresentation of women in information security teams in the finance sector, enabling six women from non-technical backgrounds to take a three-year training programme that mixes work experience with one-on-one coaching and technical training.

SWIFT is also active at a local level. As a Belgium-headquartered organisation, it has signed up to the Gender Balance in Finance charter drafted by Febelfin, the trade association of the Belgian financial services sector. In Malaysia, home to its Kuala Lumpur Corporate Services Centre, SWIFT supports a government scheme to help women back into the industry after a career break.

Earlier this year, SWIFT signed the Women in Finance Charter, pledging the cooperative to support the progression of women into senior roles, measure and report on progress achieved, build a talent pipeline and publish a comprehensive diversity strategy.

Overcoming barriers

Rosemary Stone, global head of HR at SWIFT, says the cooperative continues to challenge itself to improve gender diversity. "We've got better at entry and mid-level positions, but we need to ensure that there is also a clear path to talent development," she says.

Stone emphasises the importance of putting in place the right policies and processes in order to achieve change. "Improvement on gender diversity is a matter of using multiple levers rather than a single silver bullet," she explains. "It's important to use data and analytics to make sure we have an accurate picture of the present, drawing information from talent review processes, exit interviews, and key performance indicators etc. Human resources teams can then work together with business lines to ensure our diversity and inclusion policies offer opportunity for all."

But honest, personal conversations also have a place alongside the hard data. "By talking to women in leadership roles, you can get a better understanding of how they manage their commitments and a greater appreciation that multiple roles are compatible. Openness is an important part of understanding how barriers can be overcome," says Stone.

←
Women of the World: Put gender on your Sibos agenda

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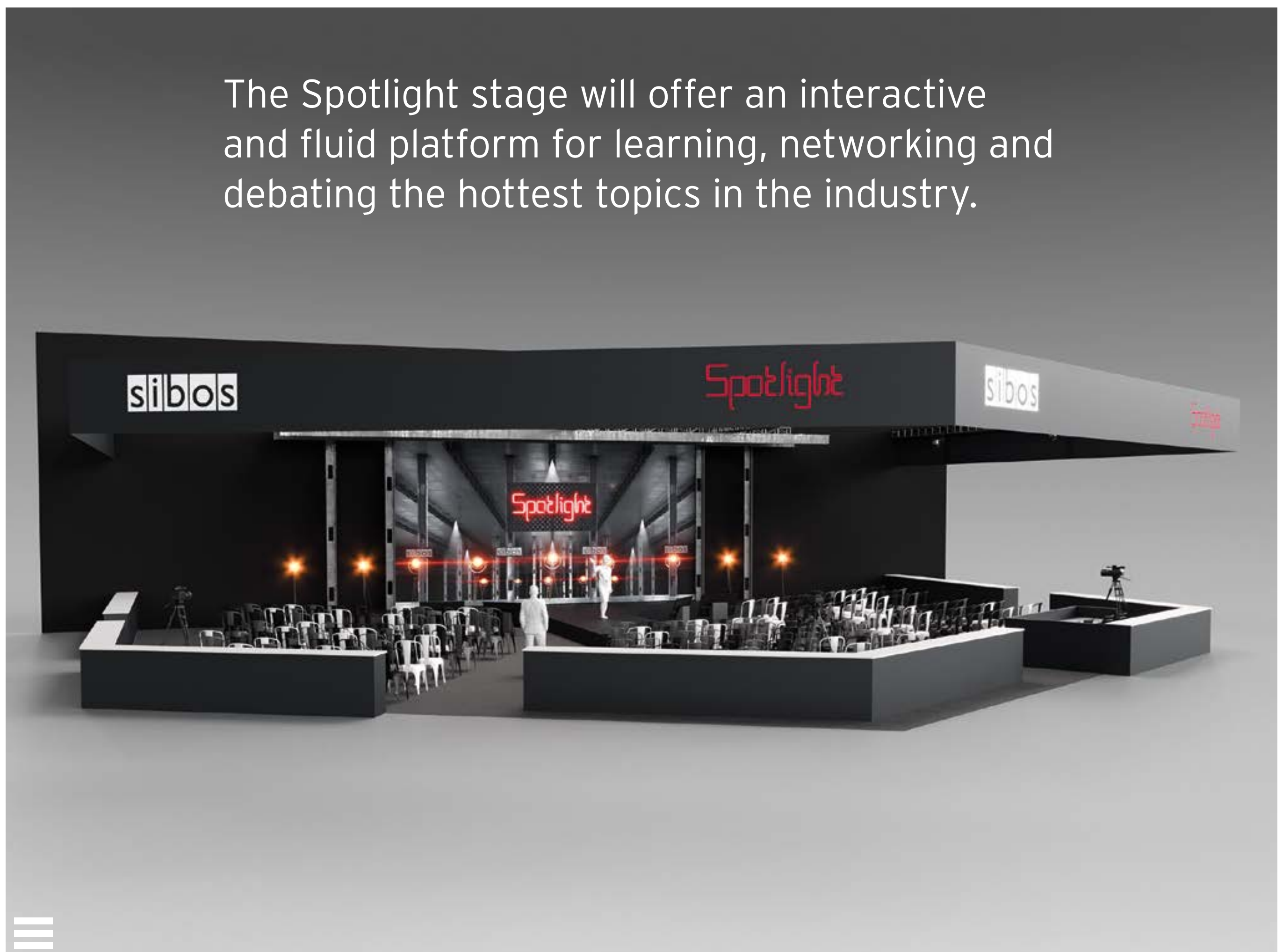
SWIFT at Sibos: Around the world in real time

Lights, camera, action



Brand new for Sibos 2019, the Spotlight stage is a platform with a difference. It's where you'll hear quick-fire talks and presentations from some of the world's leading financial industry experts – delivering what you need to know about the very latest industry trends.

Each day of the conference, the agenda will focus the debate on a distinct industry theme, from open banking to customer experience to cybersecurity to banking for a better world. The speaker line-up has been expressly curated to ensure each issue is covered from a wide range of angles and viewpoints – giving you a fully-rounded picture of the opportunities and challenges for the industry. See below for an overview of each day.

Also don't miss the new Chat & Connect lounge, located next to the Spotlight stage. In the lounge you can meet, greet and network with speakers and experts following the Spotlight sessions. Join us in the lounge for the opportunity to discuss with the specialists on the topics that matter to you.

Open banking
Open banking will be put under the spotlight on Monday, reflecting the importance of such initiatives around the world. Expert speakers will exchange ideas on the progress and challenges surrounding data guidelines, regulations and global standards and their impact on the commercial viability of solutions. They will also look further into the future and contemplate the potential move from Open Banking to open everything.

Speakers will include Imran Gulamhuseinwala, implementation trustee at the UK Open Banking Implementation Entity, and Jason Bates, co-founder and deputy CEO of 11FS.

Customer experience
Segueing from a focus on technology innovation, Tuesday looks at the enduring importance of the human element in banking. Aligned with the Sibos conference sub-theme 'exploring the human element', the day will centre on customer experience, with talks on topics ranging from helping improve consumers' financial choices and creating non-bank like experiences, to weighing up security and convenience in customer service interactions.

Speakers will include Rupert Nicolay, worldwide services architect at Microsoft, and Peter Neufeld, EMEIA head of digital advisory and customer experience in financial services at EY.

Cybersecurity
In an ever-evolving threat environment, Spotlight turns its attention to the thorny subject of cybersecurity on Wednesday. The debate will address the key cyber risks and challenges surrounding industry-wide coordination and intelligence sharing. During the day you'll able to join SWIFT's Red Team of ethical hackers for the long-awaited rematch of 'hacker versus bank', a fun and informative demo showing the need for comprehensive security programmes that go beyond 'checking the boxes'.

Speakers will include Andrew Gray, managing director and group chief risk officer at the DTCC, and Steve Silberstein, CEO at FS-ISAC.

Banking for a better world
While most banks have programmes in place to ensure they have a positive impact on their local communities, some are increasingly turning their attention to some of the world's most urgent problems, such as climate change, extreme poverty, financial exclusion and gender equality. On Thursday, Spotlight speakers will explore how the financial industry is addressing these global and pressing concerns, and discuss what more needs to be done. Topics will range from engaging with Generation Z to sustainable finance, financial inclusion, the role of technology and how to remain human in a digital world.

Speakers will include Sir Roger Gifford, chair of the Green Finance Institute, and author and broadcaster Julia Hobsbawm.

It's a great honour to host Sibos 2019 in London. We hope you have an inspiring and enjoyable experience throughout the week, and look forward to offering you a warm welcome at the SWIFT stand.

Cate Kemp,
head of UK, Ireland and Nordics, SWIFT

SWIFT at Sibos

Around the world in real time

The reinvention of payments is well under way. Use Sibos to find out more about how the SWIFT community is creating a new global ecosystem.

Across the globe, many lives have already been transformed by the application of digital technology to payments services. Whether accessing micro-credit services, receiving remittances or checking balances on the move, the increased speed and availability of a new generation of payment services has helped many millions to manage their finances – in both their business and personal lives – with greater efficiency, transparency and control.

According to the triennial Global Findex database[1], the proportion of adults worldwide holding an account with a financial institution or mobile money service rose from 62% in 2014 to 69% in 2017, with a steeper increase in developing economies. Much of this can be traced to the penetration of mobile and internet networks, on which multiple platforms and services have subsequently been built.

But the digital payments revolution is far from over. In fact, it is just getting into its stride. Despite myriad improvements to the user experience – in terms of immediacy, convenience, and responsiveness – many of today's services are limited by geography or membership.

1 https://globalfindex.worldbank.org

Reconceptualising payments

Imagine a world in which payment was real time, convenient and secure between any two accounts, anywhere across the globe. Not just between two residents of the same country, or two users of the same chat app, but any two account holders, transferring funds from Amsterdam to Accra or Bogota to Bangalore.

This ubiquitous ecosystem would open up new horizons for consumers, small businesses and large corporates alike. It would create new opportunities to buy from, sell to, and work with counterparties and collaborators with minimal friction, and with optimal trust, transparency and security. For banks, it would offer the chance to develop a new generation of differentiated services as customers explore new possibilities, markets and business models.

“

Domestic payment infrastructures are driving huge improvements in the way payments are made, notably with the move to real-time.

Harry Newman, SWIFT

SWIFT has already begun to imagine this future and is taking practical steps with members of its community and other partners to build the infrastructure required to realise it. This is of course no small undertaking. It's nothing less than the reinvention of payments.

Need for speed

"Domestic payment infrastructures are driving huge improvements in the way payments are made, notably with the move to real-time," explains Harry Newman, head of banking at SWIFT. "We're aiming to repeat that internationally, which is not straightforward when there are hundreds of currencies and different jurisdictions, local rules and practices to account for."

A key step in this reinvention was the launch of SWIFT gpi in 2017. Already, gpi has made cross-border payments between correspondent banks much faster, more transparent, and trackable from end-to-end.

"More than 50% of gpi payments are already reaching the end beneficiary in under 30 minutes, many of those in just minutes or seconds, and nearly 100% of them are made within 24 hours," says Newman. "Our attention is now turning to address the areas where frictions still arise. We're doing that through a number of initiatives to help our clients to make those payments smoother, more predictable and faster."

More than 3,500 banks are committed to adopting gpi, with over a million payments now sent via gpi every day, worth more than US$300 billion. By the end of 2020, the intention is for every SWIFT payment to be a gpi payment.

"Our next step is to enable confirmation that the beneficiary account has been credited – for every payment," says Golnaz Amininejad, product manager, SWIFT gpi. "Universal confirmations will provide the certainty that banks and their customers need to keep business flowing and avoid frustrating investigations on the whereabouts of a payment."

Critically, by linking SWIFT gpi to the domestic instant payment services and 24/7 real-time gross settlement systems being implemented across multiple jurisdictions – as recent trials in Australia, Singapore and Europe have shown to be successful – the reality of a truly global, open, real-time payments system comes within grasp.

Shared purpose; common language

Smooth integration and interoperability between domestic and international payments processes is key to unlocking this new vision for payments.

This is a core aim of the current migration to the ISO 20022 message standard framework. Many platforms have already started migrating to ISO 20022 and all new infrastructures are built using the standard. Banks are embarking on their own transition, supported by SWIFT.

Use of this common standard across all payment flows is fundamental to the core characteristics needed of a truly global system – open, ubiquitous, innovative, trusted and hyper-connected – primarily due to the rich, structured data it can carry. With ISO 20022 supporting end-to-end consistency of business process, the SWIFT community, fintechs and other players can explore the potential of new technology such as APIs and cloud to connect systems and users in a flexible, user-friendly, 'plug and play' fashion.

SWIFT is also working to support harmonisation of API standards as the finance sector transitions to an API-driven economy.

We see new business models that were not possible a couple of years ago.

Luc Meurant, SWIFT

“With APIs, cloud and machine-learning, we see new business models that were not possible a couple of years ago,” says Luc Meurant, head of marketing, SWIFT. “This is not about SWIFT doing everything itself. We are enabling players to develop value propositions on top of gpi.”

The compliance challenge

As payments get faster, so does the imperative to screen them faster, using the most efficient tools to detect and prevent abuse of the financial system. This means building out compliance tools that help banks to know their customers, screen their payments and detect breaches, increasingly using data analytics to focus resources on key risks, pre-validation tools to check data accuracy, and deploying new identification technologies.

“Real-time payments really depend on banks having a clean, correctly formatted data set,” says Julien Blanchez, head of data and analytics, SWIFT. “With increasing compliance challenges and regulatory pressures, having good quality, accurate payment data has become very important.”

Cleaner data unlocks the potential of new technology, such as artificial intelligence and machine learning, which will be pivotal for compliance teams looking to reduce the number of false positives and boost the effectiveness of their screening.

Benefits for all

With the necessary protections and precautions in place, a global stage is set for efficiency, automation and innovation.

Real-time payments depend on banks having a clean, correctly formatted data set.

Julien Blanchez, SWIFT

Universal confirmations will provide the certainty that banks and their customers need.

Golnaz Amininejad, SWIFT

But what does real-time, 24/7 cross-border payments mean to the customer?

To the parent, it means funding an overseas university education with control and without sinking into the red. To the portfolio manager, it means elimination of securities settlement fails and a faster response to investment opportunities. To the small exporter, it means easier, quicker access to funds and reduction of friction in trade finance. For the global corporate, it means streamlined treasury processes across FX and payments, reducing hedging costs and increasing cashflow transparency and predictability. To all customers, it means the disappearance of boundaries, but also perhaps of payments as we know them too – as payment processes are increasingly embedded within tools and services with the power to transform lives.

Throughout the Sibos 2019 programme, you will find many dedicated sessions aimed at exploring elements of this payments revolution in more detail. To join the conversation, come and find us at the SWIFT stand.

sibos

Networking events at Sibos - open to all

MONDAY 23 SEPTEMBER

17:30
Reinventing Payments cocktail
SWIFT stand

WEDNESDAY 25 SEPTEMBER

06:00
Sibos 5K Fun run and walk

17:00
WOW (Women of the World) networking event
The Bridge (ExCeL)

19:00
Innotribe networking event
Giant Robot, Canary Wharf

THURSDAY 26 SEPTEMBER

17:00
‘Best of British’ - Sibos closing event
ExCeL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Thriving in a hyper-connected world

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