KPMG

Creating a leading central bank

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Foreword

The pressures facing central banks today are enormous. They are unprecedented. And they are unique. This publication puts them into context.

Leading a central bank has never been easy. Yet, today, central banks are being asked to operate in an unsettled environment, often using outdated tools and without the resources and capabilities they need to succeed.

It's a different world

Consider some of the major forces now influencing global economies and monetary systems. The secondary impacts of the COVID-19 pandemic are still being assessed, even while new geopolitical tensions warp the environment further. Inflation is rising. Monetary and fiscal policies are falling out of alignment. And central bankers are left dealing with the turmoil with the bluntest stick possible: interest rate hikes.

The situation is not much easier at the global level. Recent events suggest territorialism and protectionism is on the rise while globalization is in retreat. Countries are competing on energy security, technology innovation and economic policy. Technology companies remain in ascendancy while trust in traditional institutions is being eroded. Consensus building has given way to regionalism.

All the while, two massive shifts are revolutionizing society and economies. The first is digitalization and automation; like other organizations, central banks recognize the need to modernize their operations through technology and operational transformation. Never has the pace and volume of changes that central banks face been so critical and, as a consequence, the pressure that such a scenario imposes to the financial systems infrastructure. The second is ESG; central banks also know they have a key role to play in driving the transition to a green, equitable and just economy. Both trends must be front of mind for central bankers as they move to execute their agendas.

Fishing in a difficult talent pool

Central banks are used to operating in an unsettled world. But the pressures facing central banks today are enormous. They are unprecedented. They are also unique. And therein lies the biggest problem: finding the right talent, resources and capacity to mount a practical response.

Around the world, a fierce competition for talent and capabilities is raging. In the commercial world, banks are battling tech firms for the same pools of talent. Skilled workers are being coaxed away by bigger paychecks. Employees are looking for employers that align with their personal values and purpose. As central banks start to focus on shaping and developing their future workforces, they are stepping deep into a battle they cannot easily win.

Central bankers are well aware that the pool of experienced talent is shallow; it becomes a puddle in emerging areas like central bank digital currencies, ESG governance or automation. The same can be said for the pool of available advisors, service providers and outsourcers.

That has put central bankers in a difficult position, given the level of public scrutiny over the activities of the central banks. They want to move swiftly, smartly and boldly. But they may not have the support, frameworks or experience they need to achieve that. This report aims to help fill that gap.

Real insights based on real experience

This report by the KPMG Central Bank network focuses on the issues and trends at the top of every central bank agenda. We explore the battle for talent, the development of Central Bank Digital Currencies, the rise of the ESG agenda and the evolution of cyber security. We shine a spotlight on underlying themes such as accounting standardization and internal audit modernization. And we provide practical advice on topics like operational transformation and the value of supervisory technologies (SupTech).

What makes these viewpoints particularly valuable is that they are based on hands-on experience gained from central banks and supervisory authorities around the world. Our organization is dedicated to serving central banks. And we are committed to using our experience, tools and vantage point to help central bank leaders navigate these unprecedented times.

We hope this report helps central banks create their vision for the future, overcome the obstacles facing them and modernize their operations and approach. More than anything, we hope it demonstrates that you are not alone; the KPMG Central Bank network is here to help.

To learn more about the topics raised in this report, or to explore the unique challenges facing your central bank, we encourage you to contact your local KPMG member firm or one of the authors listed at the back of this report.

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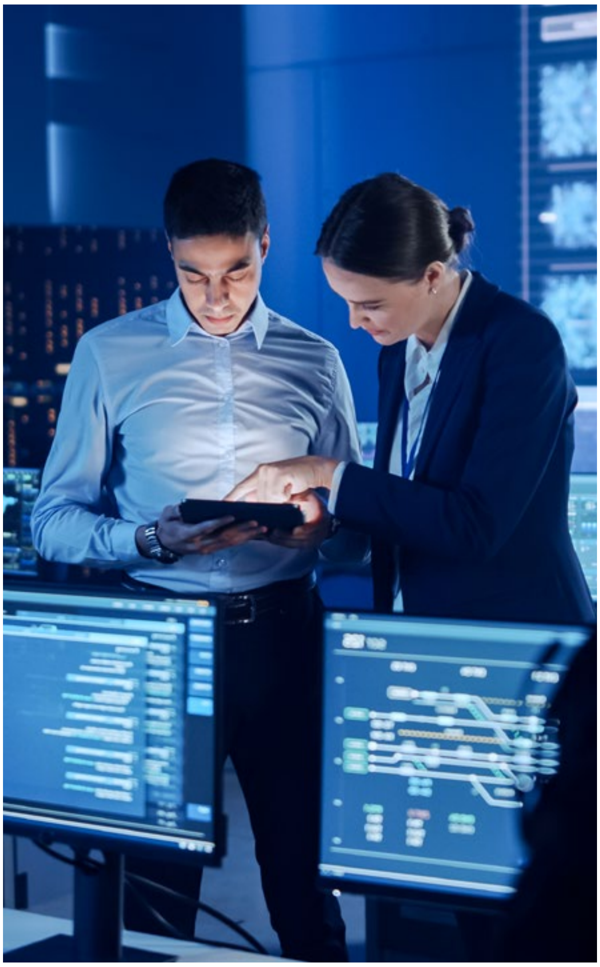
Contents



Greening the central bank

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Central banks and financial supervisors recognize that they can — and should — play a key role in greening the financial system. Now the big questions are what they should do and how.

As governments push to drive their environmental agendas and financial services firms innovate around green instruments and vehicles, central banks are finding themselves under increasing pressure to lead the way.

On the one hand, central banks and supervisors should create appropriate prudential regulation, policies and rules to help ensure the orderly transition to a green financial system. At the same time, they will likely need to take action to green their own assets and infrastructure to help ensure that they themselves are positive contributors to the drive to net zero.

Seeing through the maze

The challenge is that there are no standard blueprints for greening a central bank. There are no universal climate disclosure rules that apply to central banks. There aren't even standard approaches to quantifying climate risk for these systemic cornerstones. Knowing exactly what to do and how to do it isn't easy.

Central bank leaders recognize the challenge and are working towards building consensus across key areas. Under the banner of the Network for Greening the Financial System (NGFS), more than 100 central banks now share best practices around climate risk management and ways to mobilize mainstream finance to support the green transition. Absent clear standards, the NGFS is helping central banks identify key workstreams they should undertake.

Where do you focus?

Our work with central banks and financial supervisors suggests there are five key areas where leaders may want to focus:

1. **Understanding the implications.** Central bank leaders will likely want to spend some time understanding the various initiatives and projects now underway, assessing the shape of future standards and plotting their future operating model against their expectations.
2. **Creating reporting and disclosure standards.** Helping to ensure that all market participants are reporting the same information using consistent, certifiable standards and data is critical. This can ensure that the data in the system is comparable and usable.
3. **Building trust in the infrastructure.** This is about setting the compliance standards to help ensure that whatever ESG data is disclosed is appropriately shared, robustly managed and controlled in a way that builds trust in the system.
4. **Greening the infrastructure.** Central banks will likely want to be positive contributors to their market's net zero ambitions and should therefore think about how they can innovate in order to green their own market infrastructure.
5. **Working with the private sector.** In many markets, a key priority for central banks is to help make the transition to net zero affordable. That will likely require the creation of funds, securities and other instruments that can help reduce the burden on the average citizen.

Get there faster

One way to accelerate the greening of central banks is to approach the challenge from an ecosystem perspective. Oftentimes smaller, more agile organizations can help drive rapid change or bridge a gap. It's also important to work with technology providers, consultants and other advisors with previous experience helping central banks deal with their ESG challenges.

Policymakers, including central banks, are also conscious that actions to push hard towards a green transition, such as carbon taxes or price arbitrages, can provoke undesired reactions, such as capital redeployment, sparking a financial crisis. As a result, central banks are keen to set the right direction of policies to help contain climate change, and still execute their prevailing objective of economic stability.

Working together

Ultimately, the goal for central banks should be to create the right policy and regulation to give the capital markets the push they need to get on with the transition to net zero. But central banks can't do that alone.

It will likely require an ecosystem of partners and lots of collaboration globally to drive the efficient and effective greening of central banks.

How the KPMG Central Bank network can help

KPMG professionals have worked with a number of central banks and financial supervisors to help articulate, execute and accelerate their ESG activities. Leverage KPMG firms' global leadership role in ESG, financial services and governance to help central banks get ahead of the market. They provide a range of services to central banks including:

- Designing and executing education sessions, skills training and capability development around ESG for central banks;
- Helping to accelerate change though technology, partnerships, ecosystem development and innovation;
- Developing data and analytics platforms to manage, control and leverage the data available in the system.

Central bank leaders recognize the challenge and are working towards building consensus across key areas.

Protecting the bank to protect the nation

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When you are responsible for ensuring the cyber security of an entire financial system, you should be certain that your own cyber stance is robust.

As the guardian of the monetary system, central banks are very aware of the risk of cyber-attack. An attack on a large bank or asset manager could destabilize the system. A successful attack on the financial market infrastructure or on the central bank itself could destabilize the entire country. And there are plenty of bad actors keen to do just that.

Central banks have therefore been very active on two broad fronts. On the policy and regulation side, most central banks have been working closely with market participants and the managers of their financial market infrastructure to create standards and regulations that raise the overall cyber stance of the system. They have been assessing the compliance of participants and working with them on remediation. And they have been working to take the lead on the sharing of threat intelligence and best practices within and across commercial sectors.

On the operational side, central banks have also been very busy trying to ensure that their own systems and technologies are locked down appropriately. They have established programs in penetration testing and identity and access management. They have made strategic investments into new tools and monitoring systems and they have augmented protection and detection systems. Many are also increasing their focus on the zero-trust model of cyber defense.

A continuously evolving risk

However, central bank cyber security leaders still face a number of complex risks and challenges. Like most other organizations, central banks are struggling to find the capabilities and skills they need to maintain their security posture. In mid-2022, there were 714,548 cybersecurity job openings in the US alone; the supply of cyber professionals met just 66 percent of the national demand.[4] And all signs suggest this war for cyber security talent will only heat up.

Central banks are also struggling to understand the risk vulnerabilities within their own technology infrastructure. In particular, they are concerned about the systems and data that are shared or hosted by vendors and third-party technology providers. There have already been a number of public instances of central banks being compromised through their third-party solutions and outsourced services. Nobody wants to be the next.

The other area of growing concern relates to new technologies. Central banks are adding more automation and machine learning into their processes and operations. They are moving data and capabilities into the cloud. They are developing their own digital currencies. And they are exploring digital ledger technologies and studying the impact of quantum computing. Each of these creates new and nuanced challenges for central bank leaders.

Take a risk-based approach

The leading central banks are adopting a risk management approach supported by a well-defined cyber risk management process that drives risk-based decision-making. They are developing their cyber security risk appetite to help set their overall strategic direction on cyber risk. And then they are executing on strategies that can help ensure their employees, infrastructure and assets deliver on the needs of the business in line with the cyber security risk appetite.

However, our experience working with central banks suggests there is still more room to improve. In particular, central banks should be focusing on integrating cyber resilience within decision-making across all business units rather than keeping it solely the responsibility of IT. That should mean developing frameworks and systems that empower staff to make risk-based decisions, investing strategically into tools that support new items on the bank's agenda (like digital currencies) and understanding the security implications of outsourcing decisions.

[4] https://www.cyberseek.org/heatmap.html

How the KPMG Central Bank network can help

KPMG is one of the world's leading cyber security consultancies, working with central banks and financial sector supervisors to design, implement and manage cyber security strategies and activities. We work right across the key pillars of cyber — identify, protect, detect, respond and recover — to provide you with a holistic and wide-ranging approach to cyber security. In particular, we help central banks:

- Develop robust cyber security strategies and operating models;
- Quantify and report on cyber risk in a meaningful way to senior executives;
- Enhance efficiency and effectiveness of existing cyber strategies and tools;
- Identify potential outsourcing opportunities and vendor selection;
- Assist with handling breaches and response.

A case in point...

When this G8 central bank wanted to strengthen their approach to driving market cyber security, they worked with a KPMG firm to develop their cyber security vision, mission and goals. Reporting directly to the Chief Operating Officer of the central bank, the team helped the organization's leadership articulate their cyber objectives, plan the roadmap and implement the processes required.

Over the next two years, the central bank used the roadmap to execute a range of strategies across the ecosystem, including enhancing oversight of designated financial market infrastructures, convening industry groups and forums, encouraging sharing of information and the forming of partnerships.

Operationalizing CBDCs: Beyond the technology

Dave Remue, Partner, KPMG in Belgium

Central banks are moving towards bringing their own digital currencies to market. Yet the path to mass adoption is still not clear.

Central banks could no longer afford to stand on the sidelines as private digital currencies created parallel financial circuits around the world. Central bankers knew they needed to move quickly. And they recognized that a Central Bank Digital Currency (CBDC) would need to be part of the solution.

According to Atlantic Council, a US think tank, more than 95 percent[1] of the world's central bank are now exploring a CBDC. Ten countries have already fully launched their own CBDC. More than a third of the central banks around the world are currently in development or in pilots (The Bahamas and China being the most notable of those at an advanced stage of development). Another 41 percent are in the research phase but have clear ambitions to move forward: the ECB sees a digital euro by 2026 as a possibility.[2] It seems CBDCs are quickly becoming a reality.

Not so fast

While the drive towards CBDCs seems certain, the journey towards an interoperable, real-time, and secure global system of CBDCs is still unclear. A number of very important questions still need to be answered. And, until they are, no CBDC can consider themselves fully launched.

Interoperability is a significant challenge. It should be possible, for example, to easily cash in and out between existing payment systems and CBDCs at a domestic level. To be an effective tool for global trade, CBDCs need to be exchangeable for other CBDCs: a consumer with a Digital Euro, for example, should be able to spend that token for goods or services outside the Euro area. Currently, there are a several bilateral cross-border CBDC projects ongoing. Yet the path to a much wider, globally interoperable system still seems far off.

Technology is another important consideration, and a potential challenge to interoperability. Some central banks, China for example, are going down the centralized route. Others are taking the decentralized approach. Both have advantages and disadvantages. A centralized approach provides more control but requires more infrastructure. A decentralized approach may bring significant security benefits to users but cedes a level of control.

Depending on the answer to those first two questions, central banks then need to grapple with the role that they and their service providers will play in the new ecosystem. What role will commercial banks play in handling CBDC transactions? What role will data services providers play? And how will the central bank monitor the payment services providers and various transactions? Shaping the ecosystem will take some consideration.

Then there are the privacy issues. The circulation of a CBDC would kick off a virtual audit trail of every party that handles that token and where it is spent. Many citizens and businesses (not just nefarious actors) still enjoy the benefits of anonymity when spending cash. Central banks should find a way to provide that anonymity while still properly managing their new digital currencies.

Operationalizing the plan

Ultimately, all these challenges hinge on one fundamental question: what role should central banks play in the future? The reality is that CBDCs put banks in a different relationship with consumers. Today, central banks essentially delegate most of the operations of the monetary system to the commercial banks. But, in a world of CBDCs, central banks will have direct relationships with the individuals that use them. And that requires a radically different way of organizing the Central Bank. Looking at CBDC projects that are already in an advanced phase, we see that most opt for intermediated CBDCs, where the central bank issues money but delegates interactions with end users to intermediaries like banks and payment institutions.

[1] https://www.atlanticcouncil.org/cbdctracker
[2] https://www.atlanticcouncil.org/cbdctracker

The KPMG Central Bank network has helped central banks with various aspects of their CBDC efforts. And more often than not, it is these types of operational considerations that create some of the biggest challenges — and help answer some of the biggest questions. When KPMG professionals work with central banks, we often start by helping them consider the operational implications of their strategies, and then tie those to their long-term vision to drive an aggressive yet practical plan of action.

It is clear that central banks recognize the importance of creating interoperable, real-time and secure systems of CBDCs. Now it comes down to operationalizing those ambitions.

How the KPMG Central Bank network can help

KPMG professionals draw on KPMG firms' leadership in digital currencies, financial services, payments infrastructure and transformation to help central banks create and execute a clear and practical path to CBDC success. In particular, we help central banks to:

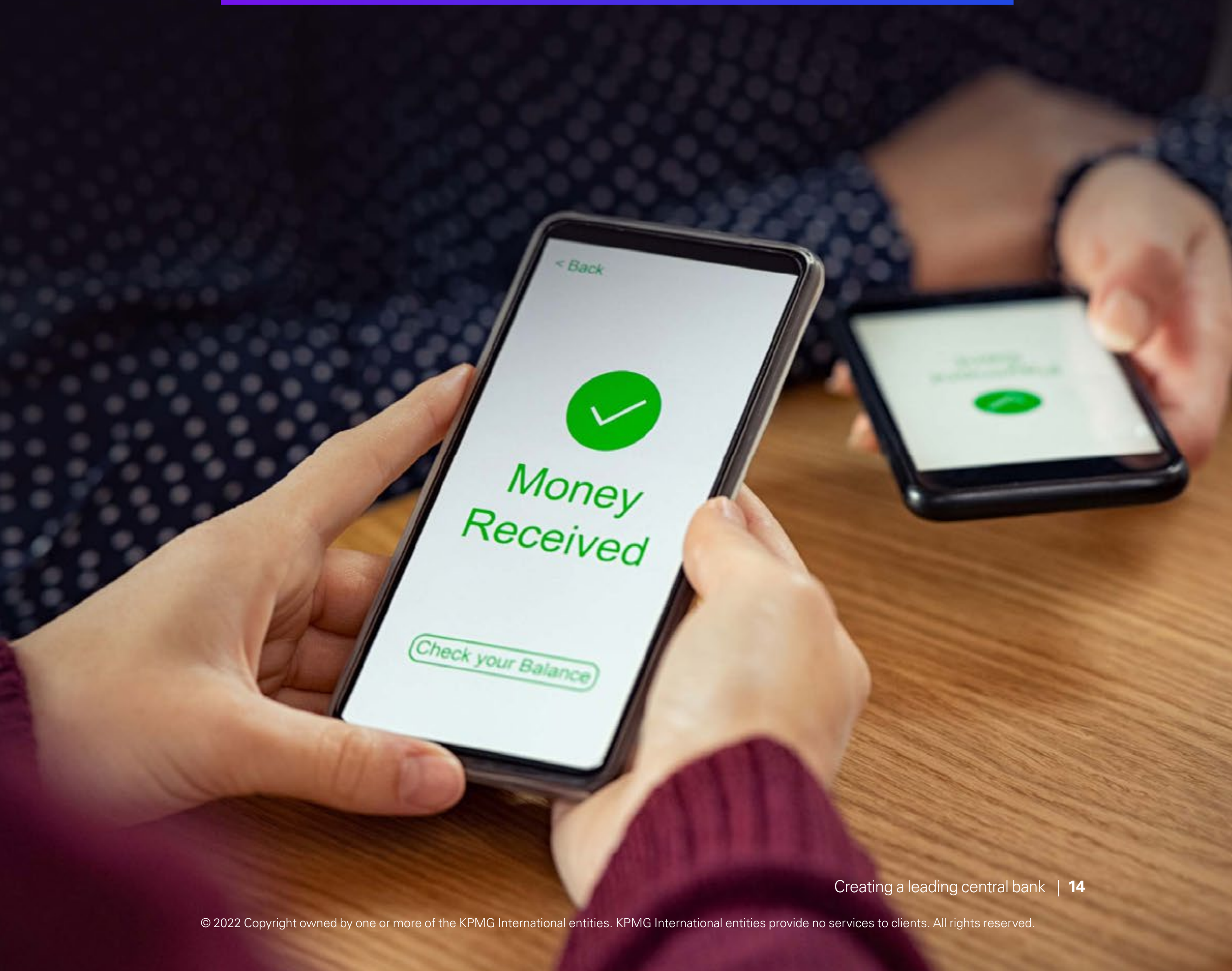
- Conduct research and analyze the different strategic options;
- Evaluate the operational considerations of CBDCs;
- Create and execute robust target operating models;
- Support the development of CBDC ecosystems including oversight and regulatory considerations as well as identifying potential risks.

More than 95 percent of the world's central banks are now exploring a CBDC.[2]

[2] https://www.atlanticcouncil.org/cbdctracker

Accelerating the central bank transformation journey

Martin Vipond, Partner, KPMG in South Africa



Central banks know they need to transform to stay relevant. But achieving transformation has been challenging. Here are five tips to help central banks accelerate their journey.

Managing tomorrow's financial system with yesterday's central bank operations is a bit like trying to manage an influencer's social media account using just a fax machine. The market has changed. And central banks need to transform to keep up.

Yet transforming a central bank is a monumental task. Operational transformation can be difficult for any organization. For central banks, the challenges are often much more complex, unique and nuanced.

Not your usual transformation

As compared to commercial banks, central banks are much more consensus-based and consultative. They are influenced by regulation, and in turn influence regulation. Central banks are also much more diversified in the roles they play — a central bank may, in one corner, act as a payments service provider to the banking system while, in the other corner, serving as their prudential regulator. Much of what a central bank does is mandated by law; making changes to those mandates can take time. And, as the nucleus of a financial system, they are naturally much more risk-averse knowing that a failure in their systems could have far-reaching implications for the economy.

While these challenges may be unique and complex, they are not insurmountable. Indeed, with the right solutions, the right capabilities and the right experience, most of these challenges could be overcome. But therein lies the problem: there are few purpose-built solutions for central banks; few have the capabilities required to run a complex transformation in-house; and there are very few service providers with significant experience driving similar projects at other central banks.

Keeping up with the markets

The pressure is on. Central banks should move quickly if they want to respond to the changes they are facing in the marketplace. Take Green Credit vehicles, for example, or cryptocurrencies; some central banks are coming close to defining a policy stance on these important topics, yet only a handful have really thought through what that means in terms of systems, processes, data and technology — let alone skills and capabilities.

In other areas — like payments, for example — the market has already moved and central banks are struggling to keep up. Here, again, they are dealing with a multi-faceted challenge. On the one hand, they need to ensure they are creating the right regulation to encourage innovation and manage risk in the payments ecosystem. And, at the same time, they will need to consider how they will evolve their core payments systems (such as real-time gross settlement) to support their objectives.

Where the business has pushed forward with planning for transformation — most often in core areas like payments or in functional areas like HR and Finance — many are facing challenges aligning ambition with reality. In part, this comes down to the pragmatism of the IT function. Given existing resources and capabilities, most central bank IT functions are wary of taking on a new transformation program at the pace required.

Central banks are also much more diversified in the roles they play — a central bank may, in one corner, act as a payments service provider to the banking system

Five ideas to help pick up the pace

How can central banks accelerate their operational transformation journey? KPMG professionals' experience working with central banks offers a few ideas and tips:

1. **Prioritize with purpose.** Many see their purpose as protecting the interests of the average citizen through financial system management. If that's the case, focus on transforming those areas that do the most to progress your purpose.
2. **Buy what you can.** In some areas, such as HR and Finance, there are existing platforms and tools that can be customized to help rapidly transform operations. Make sure, however, they are being customized by people who truly understand the unique needs of a central bank.
3. **Partner for capabilities.** As noted in the KPMG article Shaping the central bank workforce for the future, on page 20, some capabilities are either highly specialized or only needed on a short-term basis. For these capabilities, consider partnering with service providers that can deliver the capabilities you need at the scale you require.
4. **Look for industry best practices.** Central banks are unique, but every country has one. And there is a good chance someone somewhere has faced similar challenges. Scan globally for industry best practices and collaborate with industry groups to identify ideas and service providers.
5. **Keep building consensus.** Transformation means different things to different players in the ecosystem and in the central bank itself. Make sure you have everyone on the same page about what needs to be done and the pace that needs to be achieved.

How the KPMG Central Bank network can help

The KPMG Central Bank network is your window into global industry best practices, approaches and tools for transformation at central banks. Having worked with central banks from around the world, KPMG firms have experienced professionals to help:

- Define, create and build consensus around the strategy;
- Structure and prioritize the transformation roadmap;
- Architect, integrate and build out the target operating model;
- Implement their transformation activities and plans;
- Pivot their operations around their purpose.

A case in point...

As the market evolves, the expectations of market conduct regulators continue to change. Recognizing the need for a refreshed approach, this central bank collaborated with a KPMG firm to help draft their new market conduct regulatory institutional framework and business architecture design.

Leveraging prior experience on similar central bank projects in Asia, North America and Africa, the team worked shoulder-to-shoulder with the central bank to develop detailed process maps, organizational structures, job profiles and implementation plans.

The project not only helped modernize the market conduct regulator, it also helped inspire wider transformation across the central bank in areas such as payments and operating models.

Nothing as standard: Accounting for central banks

Martijn Huiskers, Partner, KPMG in the Netherlands

The IFRS® Standards were not created with central banks in mind. Yet central banks still need to account for their financial positions. That leaves room for significant risk.

Central banks do not operate like other banks. They are responsible for massive amounts of public funds. They play a significant role in the economy. And they oversee the stability of the financial system. That means their financial statements are often driven by major policy interventions.

Central banks are not profit oriented — any 'profits' gained run the risk of being vacuumed back up into the Ministry of Finance. They also tend to be more prudent and more conservative in presenting their disclosures; too much transparency on monetary transactions may trigger a market reaction that runs counter to the bank's monetary policy objectives.

No single approach

The problem is that existing accounting standards and frameworks, most notably IFRS Standards and GAAP were not created to meet the unique circumstances of central banks. There is no globally accepted accounting framework for central banks. In most cases, the accounting framework is determined by each country's own Bank Acts.

That has resulted in a mix of different approaches around the world. A review of 18 different central banks found that about 55 percent used either IFRS Standards or an IFRS Standards-based approach approach, 17 percent followed the ECB Accounting Guidelines and the remainder (28 percent) accounted according to Local GAAP or other specific legislation. It's not surprising that users find it difficult to understand the financial statements of different central banks.

Gaps emerge

The lack of accounting standards specific to central banks is not only confusing, it also creates significant questions and potential risks.

Take the treatment of banknotes, for example. Informal convention suggests that bank notes should be accounted for as a liability on central bank balance sheets. But they do not carry a maturity date and there is no indication of a claim against specific assets. For some, the only obligation is to replace unusable bank notes. Does this meet the definition of a liability under IFRS? Or should it be presented as equity instead?

Gold is another case in point. Central banks often hold both monetary gold (as part of their foreign reserves) and non-monetary gold. But, under IFRS Standards, gold is not a financial instrument but rather a commodity. With no specific guidance on how to square that circle, central banks use a range of approaches in practice. Valuations may be based on fair value or on cost. They may take into consideration transaction and transportation costs, which can be substantial given the costs for protection and insurance. There are differences in the way central banks deal with unrealized value gains through P&L, or equity, or even a specific revaluation reserve under liabilities.

Where to from here?

The KPMG Central Bank network has spent a lot of time reviewing central bank accounting practices and frameworks. What we have found is that the risk is driven less by the actual balance sheet impact and more by the recognition that inconsistent approaches to key aspects of central bank accounting leads to market confusion and risk.

As such, organizations like the IMF will have a significant role to play. Currently, the IMF prefers central banks to use the IFRS Standards guideline for accounting. But the organization has not laid out specific guidelines to reflect the unique characteristics of central banks. That should be a priority for the IMF. And central banks should advocate for more consistent global standards and guidelines.

Until then, central banks will need to decide how they are going to treat these special considerations. And then they will need to start issuing special statements alongside their accounting records to explain the specific differences as compared to a strict IFRS Standards approach.

How the KPMG Central Bank network can help

The KPMG Central Bank network combines KPMG professionals' extensive experience working with central banks with KPMG firms' deep heritage in accounting to help central banks identify and manage risks in their accounting frameworks. KPMG professionals can help to:

- Identify discrepancies or gaps in their accounting frameworks;
- Understand best practices and the IFRS Standards requirement;
- Account for unanticipated events like hyperinflation;
- Issue special statements to contextualize their accounts;
- Advocate for standardized and tailored accounting standards.

Central banks are not profit oriented — any 'profits' gained run the risk of being vacuumed back up into the Ministry of Finance.

A case in point...

Hyperinflation is a massive market risk and has significant implications for most central banks. So when an emerging market central bank wanted to account for the monetary impacts and mechanisms used to combat inflationary pressure, they turned to a KPMG firm to help.

The team worked with the central bank to identify and assess not only the transactions related to this central bank's activities but also its purpose in a hyperinflationary market. With this understanding of the bank's key priorities, KPMG professionals formulated a consistent approach to dealing with this situation.

The central bank now has a formal approach to accounting when facing hyperinflationary markets. And that has brought greater certainty to it and its stakeholders.

Shaping the central bank workforce for the future

Tania Pittoors, Director, KPMG in Belgium
Collins Makhado, Director, KPMG in South Africa

The way people work has changed. And HR functions are helping shape the workforce of the future. Are central banks moving strategically enough to meet their objectives for the next decade?

You don't need to be told that the world has changed. You, like everyone else, experienced the pandemic. You dealt with the rapid digitization of your job and your personal life. You have watched geopolitical events disrupt social cohesion. You have supported the advancement of the ESG agenda. You know, firsthand, that the employee experience is now radically different.

The impact on the HR and talent functions has been equally significant. The rapid digitization experienced through the pandemic created entirely new ways of working. Employees recentered their priorities to focus more on values, health and purpose. New skill sets and capabilities became increasingly important and increasingly scarce. And the business started to look to the HR function to help solve the impending capability gap.

The challenge facing central banks

For central banks, the challenges are perhaps even greater. The reality is that the pool of experienced central bank employees is fairly small (particularly when you start getting into the niche job descriptions related to monetary policy or regulation). For better or worse, central banks tend to experience lower turn-over (great for retention, not so good if you want to revitalize your workforce with digital natives). Yet they hold great appeal to employees driven by a greater purpose.

Central bank executives and their HR leaders understand that their organization's future success largely depends on having the right workforce with the right skills in the right places at the right time. And they also recognize that their traditional approaches to talent management and capability development are no longer enough to achieve their goals. Central banks urgently need to start thinking about how they can start shaping their ideal workforce of the future.

A roadmap to success

It all starts with understanding your central bank's purpose and strategy. What role do you expect the organization to play over the next decade? What will the external environment look like at that point? What types of activities will employees be doing? And what type of work environment and experience will they expect?

Based on this strategic view of the future, central banks can then start to identify what skills and capabilities, ways of working, tools and culture they need to get there. At this point, it is also often valuable to talk with current and potential employees about their motivations and expectations. This will help not only drive retention of current employees but can also be used to attract new ones.

Ultimately, this should provide central banks with a very clear picture of what skills they need, when they need them, and how they need them. And this is the information you need to start truly shaping your workforce.

Employees recentered their priorities to focus more on values, health and purpose. New skill sets and capabilities became increasingly important and increasingly scarce.

The five Bs of workforce shaping

When thinking about your strategic path to workforce shaping, it is often helpful to consider your options aligned to five Bs.

1. **Build.** This is about upskilling and reskilling your current workforce to meet core capability requirements in the future. You want to build those skills that are core to the business or that are becoming strategic capabilities (like design thinking).
2. **Buy.** There are a number of skills sets that are new to central banks but will be core in the future (predictive analytics, for example). In those cases, it may be worth considering buying, recruiting or acquiring that talent on a more permanent basis.
3. **Borrow.** Skill sets that are in high demand, are scarce in the market or are more transformational in nature (like change management) could be borrowed on shorter-term or a contingency basis to achieve certain goals or objectives.
4. **Bot.** Many current job roles — or parts thereof — could be automated or virtualized to allow the human employee to focus on higher value tasks. Virtual FTEs and bots will take up an increasing proportion of the workload.
5. **Base.** The digitalization and virtualization of work means that central banks can now greatly expand their base of potential talent to new geographies — both domestic and foreign. And that opens up new workforce models and talent pools.

Transform HR to transform your world

To support this transformation, central bank HR functions will likely also need to transform. The past few years have proven to HR functions that they need to become much more customer centric and focused on the employee experience. They need to adopt new technologies and ways of working in order to rise above the day-to-day tactical activities and focus on the strategic priorities. And they need to enhance their role as a catalyst for organizational transformation.

The way people work has changed. And HR functions are helping shape the workforce of the future. Is your HR function moving strategically enough to meet your central bank's objectives for the next decade?

How the KPMG Central Bank network can help

KPMG professionals work closely with KPMG's Global People & Change practice to help central banks shape their future workforce and transform their HR functions to thrive in the new environment. KPMG professionals can help central banks to:

- Align current workforce and talent strategies to future business priorities;
- Assess current capabilities, both across the organization and within the HR function;
- Identify the key skills and capabilities required for the future;
- Create robust workforce-shaping plans to help drive the transformation journey;
- Develop, coordinate and execute HR transformation strategies;
- Modernize the HR function to become more customer-centric and digitally enabled.

KPMG worked with the client to integrate our Powered HR proposition and accelerate the transformation journey.

A case in point...

With an aggressive modernization agenda and a deep desire to enhance the strategic value of their back-office functions, this G20 Central Bank knew they needed to move quickly and confidently on their transformation agenda. Starting with the HR function, the organization wanted to leverage their NextGen ERP implementation as a catalyst to transformation. And they chose a KPMG firm to help.

KPMG professionals came to the table with our Powered HR proposition, which can help accelerate the transformation journey.

Working with HR leadership and key stakeholders across the bank, KPMG's team of professionals helped the HR organization realign their operating model against the future needs of the organization, designing new processes and ways of working to help the function quickly and sustainably transform.

These efforts enabled the HR function to leverage automation, digitization and self-service options that allowed the organization's HR professionals to focus on delivering more strategic programs while enabling business managers to take greater control over their HR responsibilities.

SupTech: Modern supervision

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Technologies to support supervisory authorities are proliferating. Are banking supervisors ready to take advantage?

Banking supervisors know they need to change. The banks they oversee are going more and more digital and are now playing in new channels, new tools and new products. That means a greater need for oversight. And that means more data and more reporting.

Yet it seems that banking supervisors can get rather overwhelmed. Few have the capabilities or capacity to analyze that much data, let alone report their findings back to their stakeholders in a timely manner. They are being asked to oversee more organizations, analyze more data, conduct more reviews and deal with more regulation. And some simply don't have the people or the resources to get it all done.

SupTech to the rescue

Thankfully, a range of supervisory technologies (SupTechs) are emerging to help banking supervisors modernize their operations and become masters of their data. Some are being developed by banking supervisors themselves (sometimes in collaboration with other authorities). Others are being developed by SupTech companies who, having spotted an unmet need, are busy innovating to fill the gap.

The SupTech market is booming. And the different types of technologies now available to supervisory authorities has grown exponentially in the past few years. Indeed, according to a recent paper by the Financial Stability Institute, a branch of the Bank for International Settlements, the number of discrete prudential supervisory tools being either developed, tested or used by authorities rose from 12 in 2019 to more than 70 by the end of 2021.[5]

The majority of these new tools fall into the 'quantitative' category. The ECB, for example, uses quantitative tools to analyze the huge amounts of data they receive on credit files. Other tools are regarded as 'qualitative' — think of tools that automatically review the Fit and Proper questionnaires of the thousands of new board members that join banks each year.[6] Then there are tools that mix the qualitative and the quantitative.

Willing to adopt

While banking supervisors may be keen to apply new technologies to their activities and operating models, our work with supervisory authorities and SupTechs suggest that there is much progress to be made (particularly compared to the uptake of RegTech — the yin to SupTech's yang — in commercial banking markets).

In part, this comes down to perceptions on risk. Many of the newer generations of SupTech feature technologies like AI and Machine Learning. Some supervisors are wary about handing too much control over to the machines. Awareness and understanding may also contribute to slow uptake in the sector; with the market rapidly evolving, many supervisors are struggling just to understand the current technology landscape, use cases and application.

However, our experience suggests the greatest barriers facing banking supervisors relate to capability and capacity. The reality is that the technology and implementation skills that supervisory authorities need are currently in very short supply. Those with prior experience working with banking supervisors and central banks are particularly hard to find.

That leads into the capacity problem. With a shortage of skilled workers capable of managing a technology transformation and a lack of clarity on what technologies and processes to prioritize, most supervisory authorities are simply spread too thin to successfully adopt new technologies. Even finding a partner with these skills and resources can be difficult in today's environment.

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5 Suptech tools for prudential supervision and their use during the pandemic, Financial Stability Institute, December 2021

6 Technology is neither good nor bad, but humans make it so; Speech by Elizabeth McCaul, Member of the Supervisory Board of the ECB, Turin, Italy, 13 July 2022

How the KPMG Central Bank network can help

KPMG professionals bring together a unique combination of technology skills, governance frameworks and deep central bank experience to help banking supervisors and central banks take advantage of technologies in the market. From strategy through to implementation, you can trust KPMG professionals to:

- Help educate, upskill and inform key stakeholders and leaders on the evolving SupTech landscape;
- Create practical and integrated strategies and implementation plans for supervisory modernization;
- Benchmark industry best practices and activities across various central banks and supervisory authorities;
- Help ensure appropriate governance and controls are in place over new technologies and processes;
- Implement new systems, tools and processes using tested frameworks and approaches;
- Define the future target operating model, key enablers and technologies.

The SupTech market is booming. And the different types of technologies now available to supervisory authorities has grown exponentially in the past few years.

Confidently into the cloud

Philip Schneider,
Co-Leader of the Global Cloud Center of Excellence,
KPMG International

Central banks should fully embrace the cloud if they want to deliver on their objectives. Here's how.

Over the past few years, any lingering doubts about the need for cloud enablement at central banks have disappeared. Indeed, central bank leaders now recognize they cannot hope to meet their long-term objectives without cloud.

Central banks want to play in digital currencies. They want to share real-time data with their stakeholders. They want to innovate and automate their processes. And they want their people to focus on more strategic, value-adding activities. They know none of that is possible on old mainframes or in private clouds.

Yet, given their role in the financial system, central banks also tend to be rather risk sensitive. And they see lots of potential risks in the move to the cloud. From the need for new governance approaches and internal controls through to concerns about data sovereignty and cyber security, the move to cloud presents unique challenges for central bank leaders to grapple with.

Perhaps not surprisingly, the pace of cloud adoption at central banks has been slow. For the most part, central banks have focused on implementing cloud applications — focusing on adopting and customizing existing SaaS solutions within discrete business functions and processes. More often than not, central banks are simply lifting-and-shifting existing workloads from on-prem systems into the cloud.

Avoiding the common pitfalls

KPMG professionals have experience helping central banks and other financial players develop, execute and operate their cloud strategy.

And our experience suggests central banks are facing some common large-scale transformation challenges on their journey to cloud adoption.

One of the more common barriers is a lack of a holistic, broad approach to the cloud strategy. All too often, cloud adoption is driven in silos or across processes. That leads to missed opportunities, lost value and frequent redundancies. Organizations that take a more holistic approach that spans the organization and the value chain ultimately achieve much greater value from their cloud journey.

Similarly, we've also seen cloud transformation projects get bogged down due to a lack of alignment between stakeholders. The most successful central banks are achieving their cloud objectives by creating strong alignment between the business, technology and compliance — on both the journey and the destination.

As they get deeper into their cloud strategy, many central banks are finding themselves facing an increasingly complex cloud environment. Most will likely find themselves in a multi-cloud situation; others may also need to maintain some form of hybrid environment, particularly for highly-sensitive processes. Dealing with the governance, risk and compliance aspects can be a challenge.

However, the most common — and yet the least discussed — challenge facing central banks is the data transformation. You will likely never get the full value of your cloud investment if you keep your data locked up on mainframes. Making data seamlessly available for cloud applications requires a full data transformation to the cloud.

Central banks have focused on implementing cloud applications — adopting and customizing existing SaaS solutions within discrete business functions and processes.

On the path to cloud success

KPMG professionals' experience working with central banks and other financial system players suggests there are six key areas where central bank leaders should be focusing to accelerate and sustain their cloud adoption.

1. **Get the strategy right.** Think about the value you want to achieve from your investments and work across the enterprise and value chain to create alignment between business strategy and cloud strategy.
2. **Focus on modernization.** As you move from on-prem to cloud IT environments, don't just lift and shift your processes. Consider how you can engineer and modernize your processes and activities through cloud.
3. **Transform the data.** Strive to ensure your data is fit-for-purpose for cloud enablement. Consolidate data sources and flows. Develop core analytics and insights capabilities and unlock new sources of value in your data.
4. **Don't forget the governance.** Governance, risk and compliance are massive challenges, particularly for central banks considering multi-cloud environments. Try to identify and replicate best practices.
5. **Manage the change.** You can expect the shift to cloud will require new skills, capabilities and ways of working. Consider how these changes are likely to impact your people, their activities and your business continuity planning.
6. **Plan the big program.** Cloud strategies can't be managed off the side of a desk. Success requires organizations to create project management offices, track performance and help the organization pivot as required.

How the KPMG Central Bank network can help

KPMG professionals can help ensure a successful transformation, delivered at pace. We use our tested cloud transformation strategy framework to help organizations like yours through every phase of their digital transformation journey. From envisioning and preparing the strategy, through execution, operation and optimization, our multidisciplinary team delivers a connected, powered and trusted cloud transformation. Our services span:

- Business transformation;
- IT and application transformation;
- Data transformation;
- Governance, risk and compliance;
- Change management and communication.

Independent, integrated, and insightful: Internal audit evolves

Willie Barnard, Associate Director,
KPMG in South Africa

The landscape for central banks is becoming more complex. Are central bank internal audit functions prepared to keep up?

Central banks are hugely complex and massively diversified organizations. They run the gamut from setting monetary policies through to managing payment infrastructure. Depending on their mandate, they may be responsible for banknotes and currency, banking supervision, financial stability or even the collection of statistics. They require all the usual back-office functionality found at any commercial bank or in government departments. And internal audit's job is to provide independent assurance over it all.

At the same time, the central bank agenda is rapidly evolving, bringing new and unique risks. Central banks are getting into digital currencies. They are creating sandboxes with FinTechs. They are writing new regulation. They are adopting new technologies and business processes in order to modernize and adapt. And that is making the internal audit function increasingly important to central bank governors, risk managers and audit committees.

Are you ready?

The problem facing internal audit leaders is in ensuring they have the right resources with the right capabilities to meet the requirements set in the internal audit plan. This isn't necessarily about adding more auditors. It's about shaping the internal audit organization to reflect the current and future needs of the central bank.

Recognizing that the world has changed, many central bank internal audit functions are now starting to ask whether they are properly positioned to achieve their mandate going forward. Preconceived notions about outsourcing, insourcing and automation in internal audit are being challenged. Significant effort is being put into aligning with the business. New capabilities are being built, borrowed and bought.

Getting fit for the future

KPMG professionals' work inside central bank internal audit teams suggests the target operating model of the future varies depending on the organization. In some cases, central bank internal audit teams have outsourced the more routine activities and audit requirements to allow their resources to focus on specialized and strategic tasks. In other cases, central banks have opted to bring in specialists who can hit the ground running on emerging topics while simultaneously helping to upskill their internal resources.

Many central bank Internal Audit leaders are also trying to understand how they are performing — both against the Institute of Internal Auditors standards and the expectations of their key stakeholders and the audit committee. We perform a significant number of External Quality Assessment Reviews (EQAR) of large to medium size internal audit functions and, invariably, even in mature teams we uncover areas where improvements could be made, ranging from strategic issues to housekeeping items.

The leading central banks are also applying concerted effort into driving a 'combined assurance' approach across the traditional lines of defense. By encouraging greater collaboration between management (the first line of defense), risk management (the second line), internal audit (the third line) and external audit (the fourth line) central banks are dramatically enhancing data sharing and insights, leading to greater value and more focused assurance over the risk faced by the organization. Combined assurance approaches can help reduce assurance fatigue within organizations and duplication of efforts which can potentially benefits not only the user experience but also helps reduce the effort and financial impact.

The importance of positioning

Internal audit leaders must, at all times, maintain independence (in fact and in perception). The core value of internal audit is in their ability to independently challenge and review organizational risks, controls and governance structures. That requires them to be properly positioned in the organization's governance charts and empowered with an unrestricted ability to perform their mandate.

The most professional teams tend to report directly to the audit committee with unfettered access to the governor of the bank. They are usually present and participating at executive governance forums across the organization. These teams are involved in major projects, performing wide-ranging engagements and working in sync with the other lines of defense to provide a centralized approach to assurance. They interact with management, serve as a business partner and truly understand the challenges of the business while performing their independent assessment of the control environment.

How the KPMG Central Bank network can help

Recognized globally for audit quality and with a team fully dedicated to serving central banks, KPMG professionals work as a multi-disciplinary team to help central banks ensure the highest possible internal audit quality and value. Clients engage with our teams to:

- Perform EQARs and provide feedback and insights on audit quality against the Institute of Internal Auditors' standards;
- Benchmark the internal audit function against peer groups across the central banking landscape;
- Plug and fill capability gaps in specialist areas and across routine activities;
- Enhance the way internal audit reports to the audit committee and the Board, helping make reports shorter and more concise while still retaining the key messaging;
- Design and implement new target operating models for internal audit.

The core value of internal audit is in their ability to independently challenge and review organizational risks, controls and governance structures.

A case in point…

Having experienced significant change over the past few years, Chief Internal Auditors want to assess their organization's alignment to the Institute of Internal Auditors' Standards and how they are perceived by the business. In particular, organizations want to understand if their internal audit functions are operating at the right level, given their objectives, strategy, resourcing and operating model.

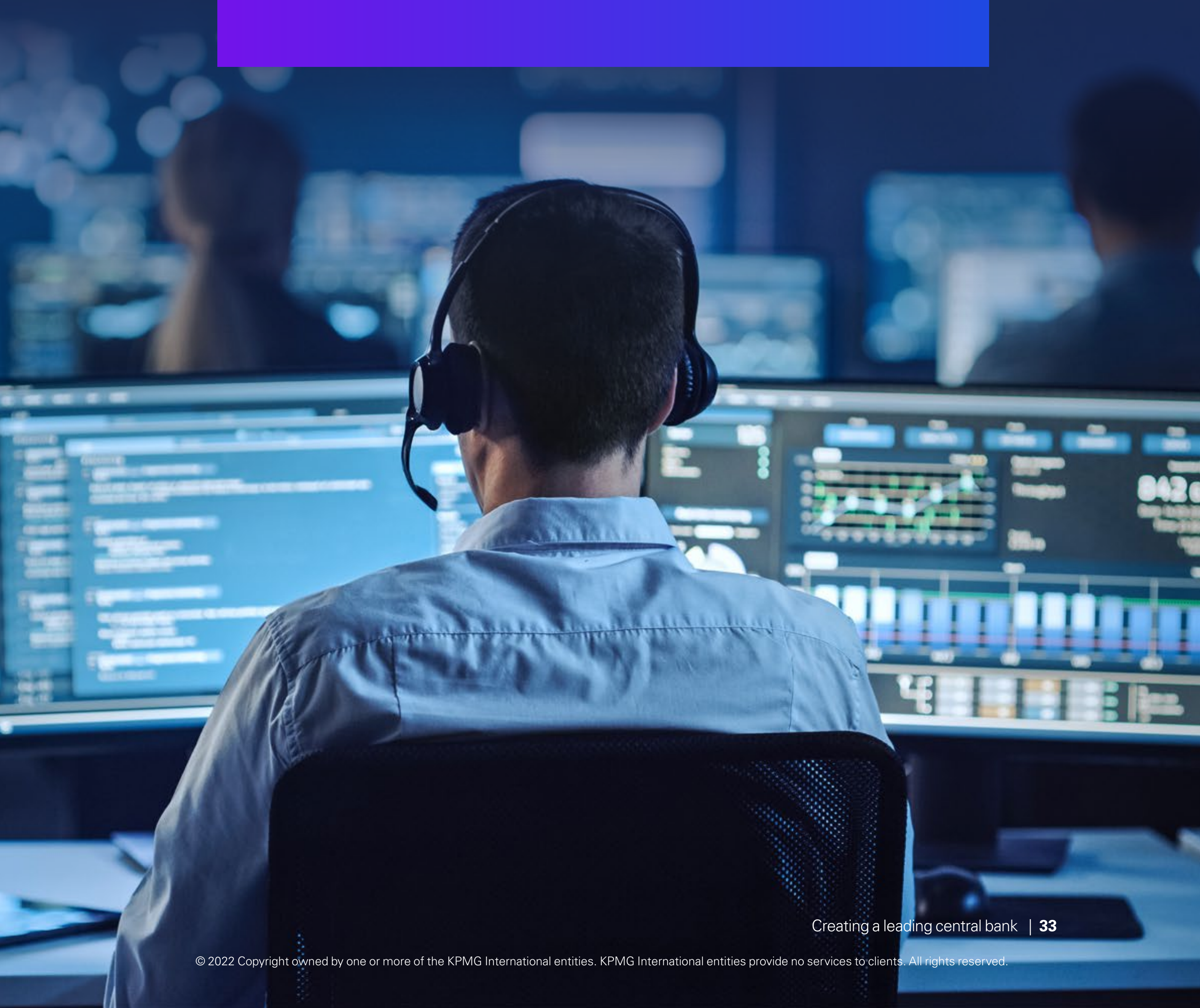
With extensive experience running EQARs and a deep understanding of central banks, a KPMG firm was asked to help this G20 central bank assess their alignment and perceived value internally. We started with discussions with the business to assess their needs, expectations and feedback.

We then worked with the internal audit team to conduct a thorough EQAR, mapping our findings to the requirements of the Institute of Internal Auditors' Standards and their positioning across the business and their alignment to meet the annual internal audit plan and reporting commitments. Through the KPMG Central Bank network, KPMG professionals were able to tap into current trends in the industry to provide the client with insights on how well the internal audit function is aligned with industry peers.

By taking a multi-disciplinary and business-led approach, the KPMG firm not only helped internal audit ensure performance today — we also enabled the function to prepare for the needs of tomorrow.

CPMI compliance — Mitigating fraud in a digital world

David Hicks, Partner, KPMG in the UK



Central bank fraud events are usually big, public and messy. Are you confident that your central bank is managing the risk appropriately?

It was an otherwise quiet February weekend when fraudsters made off with over US$80 million of a well-known foreign reserve in 2016. They would have scored much more had a counterparty not noticed a suspicious spelling mistake in some of the transfer requests. The event created significant jurisdictional reputational risk and the Governor of the central bank resigned. A flurry of investigations ensued.

A few months later, the Committee on Payments and Market Infrastructure (CPMI) — a standards-setting committee within the Bank of International Settlements (BIS) — had established a task force to look into the risks around wholesale payments fraud. In May 2018, they published their strategy, composed of seven elements designed to work holistically to address areas relating to the prevention, detection, responding to and communication about fraud, which today is the guidebook to central bank risk management around wholesale payments fraud.

Simply put — if you lead a central bank, you need a high level of confidence that your organization is in compliance with the seven elements outlined in the CPMI strategy. Those not in compliance don't just run the risk of failing an audit by the BIS, they also are at higher risk of experiencing a fraudulent event.

Assessing the state of compliance

As trusted advisors to central banks around the world, KPMG professionals have had the opportunity to look closely at compliance across regions.

What we found is that — while leadership is often confident that the risk is being managed appropriately — many central banks still have significant gaps in their compliance. Where compliance is being managed and measured, it is often not being done effectively, leading to wasted resources and potential risks.

Part of the challenge is that compliance with CPMI rules and strategies requires central banks to think at the nexus of fraud risk, cyber risk and operational risk.

It takes a holistic view and a multifunctional approach to meet the requirements effectively. It cannot be delegated to one function or risk area. And it cannot be allowed to slip between people's desks.

The other big challenge is one of awareness. Because compliance with these CPMI rules falls across multiple risk dimensions, few leaders have a unified and consistent view of their current level of compliance and effectiveness. Some are unaware of the risk entirely. Only a handful can talk about their compliance efforts and processes with a high degree of confidence.

Assess, prioritize and remediate

When we work with central banks to enhance their compliance with the CPMI rules, KPMG professionals often start by reviewing the CPMI strategy to understand the unique context and nuances relevant to that particular organization. The CPMI rules are more principals based, allowing stakeholders to reflect the uniqueness of each system and jurisdiction in determining how best to operationalize the approach.

We then tend to conduct a mock audit to assess compliance across various expectations that the CPMI outlines under each of the seven elements. We benchmark the findings against peers to help central bank leaders understand where they may be experiencing gaps and how other central banks are responding.

Ultimately, this leads to a coordinated plan of remediation that can be prioritized and addressed. Again, this may require a cross-functional team — it likely will also necessitate some external capabilities and support. We also aim to ensure that the proper capabilities, processes and systems are in place to help ensure compliance remains efficient and effective.

Are you confident?

Nobody wants their central bank to fall victim to fraud. And the CPMI has laid out fairly straightforward approaches to mitigating and managing the risk that central banks need to follow. Which begs the question, are you confident in your organization's compliance with the CPMI wholesale payments fraud risk management strategy?

How the KPMG Central Bank network can help

KPMG professionals understand the details of the CPMI rules and can help you assess, prioritize and remediate your organization's compliance. Our wide-ranging service approach includes:

- Assessing your current compliance against CPMI rules;
- Benchmarking compliance against peers and central bank leaders;
- Developing and prioritizing a remediation plan;
- Working with your team to execute remediation activities;
- Ongoing monitoring and operational improvement of compliance processes.

Few leaders have a unified and consistent view of their current level of compliance and effectiveness. Some are unaware of the risk entirely.

A case in point…

A KPMG firm recently worked with a large, emerging market central bank to assess and remediate their existing wholesale payments fraud risk management strategy. While the organization had made significant progress in a number of areas, we found significant gaps across each of the seven elements.

Working with a cross-functional team that included risk, operations, cyber security and regulatory professionals, our team identified the key remediation activities and then helped the bank execute a remediation plan.

While work is ongoing, the leadership of the central bank now have increased confidence that they understand the scope of the risk and that they are taking the right steps to manage it.

About the KPMG Central Bank network

The KPMG Central Bank network brings together knowledge and experience from its specialists around the world to help central banks deal with their unique challenges.

With a wealth of industry experience and specialized knowledge, tapping into a global organization of audit, tax and advisory professionals, KPMG have worked with central banks across mature and emerging economies and have developed a collaborative environment of knowledge, sharing the research with many of the major market players, regulators and leading industry bodies.

The KPMG Central Bank network of specialists engage closely with central banks around the world, advising them and providing input on key strategic challenges.

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