



White paper

Are you prepared for the digital banking tsunami?



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Are you prepared for the digital banking tsunami?

The banking industry stands at the threshold of a digital revolution that promises to reshape nearly every aspect of its business. From payment systems to customer experience, fraud prevention and open banking, technological change is sweeping through the sector. For banking executives, the question is no longer whether to embrace digital transformation but how quickly they can adapt to survive and thrive in this new environment.

As BAI aptly noted in its recent [Modernizing Payment Methods](#) report, “Digital banking is firmly positioned as the foundation of the new financial services industry. But how banks innovate will determine whether they can meet account holder expectations, compete with traditional and nontraditional organizations, realize their growth goals, and, ultimately, survive.”

A half dozen trends are driving the digital tsunami. Here, we examine the threats and opportunities presented by upcoming regulatory changes, emerging technologies, shifting customer expectations, and a flood of fintech disruptors and non-traditional players entering the arena.

The ISO 20022 imperative: Upgrading payment infrastructure

One of the most pressing challenges facing banks is the looming March 10, 2025, deadline to comply with [ISO 20022](#). Institutions must upgrade their wire transfer systems to provide richer data, enable domestic and cross-border interoperability, improve existing processes, add new services, and keep US payment systems on pace with the rest of the world. The standard covers hundreds of message types as well as standardized definitions of business concepts, data types, and message concepts.

ISO 20022 is a paradigm shift in how financial messages are structured and transmitted. The standard allows for more detailed, structured, and consistent information to be applied to each transaction, enabling improved straight-through processing, enhanced fraud detection, and better regulatory compliance. It promotes seamless communication and interoperability between systems and organizations to reduce costs and speed up transaction



times. Its richer and more structured data format enables better data analytics and reporting, and the standard is extensible to accommodate a wide range of products and services.

As with any new standard, not everyone will be ready. A 2023 study by Seeburger found that **only 63%** of institutions impacted by the regulation are likely to meet the 2025 deadline. Small banks are the least likely to be prepared.

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For banking executives, the transition to ISO 20022 is both a technical challenge and a strategic opportunity. Banks that successfully implement the new standard will be better positioned to stay ahead of their competition, offer innovative services, reduce operational costs, and compete in an increasingly global financial ecosystem. They will process transactions more quickly and provide better reports to customers and regulators.

However, the complexity of the transition shouldn't be underestimated. Legacy systems must be overhauled or replaced, staff trained, and processes redesigned. Ensuring seamless integration with existing systems such as core banking platforms, payment processing solutions, and customer relationship management systems will require extensive testing. Existing data formats must also be mapped to the new standard to ensure compatibility and consistency.

Banks that have yet to begin their ISO 20022 journey are already behind the curve and risk facing significant operational and competitive disadvantages if they fail to meet the deadline.

New frontiers in instant payments

Many banks may find that migrating to the ISO 20022 standard also presents an opportunity to adopt the new real-time payment standards promoted by the Federal Reserve and The Clearing House. Both facilitate instant transactions, but they have distinct characteristics and benefits for banks.

FedNow was developed by the Federal Reserve and launched in 2023. It aims to provide nationwide reach with 24/7/365 availability, instant settlement, enhanced data capabilities, and improved liquidity management. The launch of FedNow is considered a transformative development in the US banking landscape. It promises to make instant payments fast and convenient for American households and businesses. Previously, such transactions were handled by third-party applications like Venmo, PayPal, and the Zelle service operated by a collaboration of banks. Now, instant payments have the backing of the Federal Reserve.

Real-Time Payments (RTP) was launched in 2017 by The Clearing House. Like FedNow, it supports instant payments around the clock. Both systems adhere to ISO 20022 standards and are available to nearly every federal-insured depository institution.

While adopting FedNow or RTP isn't mandatory, banks that choose not to participate risk being left behind





as customers increasingly expect real-time payment capabilities. As of the end of June 2024, more than [800 financial institutions](#) in the US have adopted FedNow and 570 use RTP.

There are numerous challenges and difficulties in implementation. Legacy systems that were not designed for real-time payments will require expensive upgrades. Achieving interoperability with payment systems such as ACH, wire transfers, and RTP is technically challenging, particularly for smaller institutions. Smaller banks and credit unions may find the costs of technology, training, and maintenance associated with implementing FedNow and RTP prohibitive. Additionally, consumers and businesses must be educated about these new standards and build trust in them. Even then, behavior can take years to change.

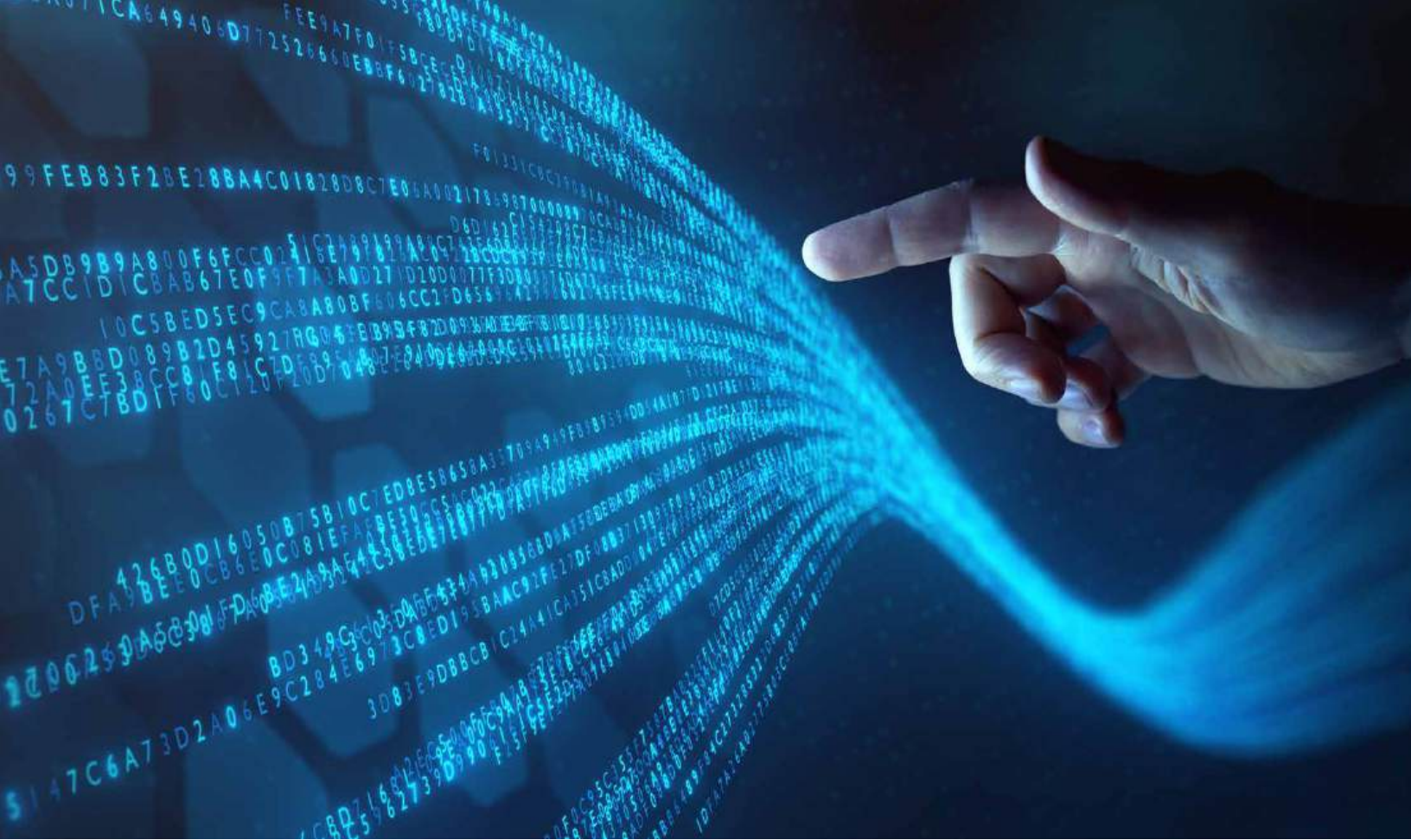
Real-time payments potentially increase the risk of fraud since transactions are irreversible. Ensuring the security of sensitive financial data is paramount as FedNow and RTP transactions traverse multiple platforms and institutions. Any downtime or technical glitches could have widespread consequences, disrupting payments nationwide. Successful implementation also requires coordination between the Federal Reserve, financial

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institutions, payment processors, and other stakeholders. Aligning the interests and goals of these diverse entities can be challenging.

The early adopters who confront these challenges head-on will be well-positioned to expand service offerings built on instant payment processing and reconciliation while reducing operational costs. Instant payments also improve cash management and reduce the risk of overdrafts and other liquidity problems.

Adopting either FedNow or RTP can significantly enhance a bank's service offerings, operational efficiency, and competitive positioning. While both systems provide real-time payment capabilities, the choice will depend on existing infrastructure, strategic goals, and customer needs. Many banks intend to offer both.



Banking-as-a-Service: The rise of embedded finance

No trend has the potential to disrupt traditional banking as profoundly as Banking-as-a-Service (BaaS), also called embedded finance. This model allows non-financial companies to offer banking services directly to their customers by partnering with licensed banks and leveraging their infrastructure. [Juniper Research](#) expects the embedded finance market to grow from \$92 billion in 2024 to \$228 billion in 2028.

The potential use cases are many and varied. For example, a popular ride-sharing app can integrate financial services directly into its platform, allowing drivers to receive payments instantly, access earnings in real time, and even obtain short-term loans based on their earnings history. Drivers can apply for a loan within the app, with the loan amount determined by their average weekly earnings. The loan is disbursed directly into the driver's digital wallet, and repayments are automatically deducted from their future earnings.

The implications of this shift for banks are significant. Virtually any company in any industry can now embed financial services into its customer experience, including websites, mobile apps, and business automation

solutions. This opens up new revenue streams for non-financial companies while potentially siphoning off customers and transactions from traditional banks. Conversely, embedded finance opens up significant new opportunities for banks that can develop the necessary infrastructure and rapidly build partnerships for service delivery.

BaaS is still nascent. [Cornerstone Advisors](#) reported that 9% of banks already provide embedded services, but that's more than double the 3.7% figure two years earlier. [BAI](#) reported that 82% of executives plan or consider offering embedded finance services within the next two years. However, half said they don't have a strong working knowledge of the technological details, and 96% of those implementing embedded finance admit they underestimated the project's complexity.

This knowledge gap represents both a threat and an opportunity for banking executives. Those who quickly develop expertise in BaaS and position their institutions as preferred partners for embedded finance solutions stand to gain significant market share and revenue. Conversely, those who fail to adapt risk being disintermediated as customers increasingly access financial services through non-bank channels.



To succeed in the BaaS era, banks will need to:

- › Develop robust interfaces to their backend systems and build developer-friendly platforms that make it simple for businesses to integrate their services.
- › Choose markets carefully. Different industries have different financing needs that require specialized expertise.
- › Create flexible partnership models that appeal to various prospective delivery channels.
- › Ensure compliance and risk management systems can handle the complexities of distributed financial services.
- › Cultivate a culture of innovation and collaboration to take advantage of business expansion opportunities such as insurance and risk management services.

The omnichannel customer experience

Customer expectations for seamless, personalized digital experiences have skyrocketed in the age of Amazon and mobile apps. The banking industry is no exception, with customer experience ranking in the top three executive priorities for several years.

[BAI reports](#) that consumers expect the customer experience to be 65% digital by 2026. This represents a seismic change from the branch-centric model that dominated banking for centuries. [Cushman & Wakefield reported](#) that the number of 77,825 FDIC-insured branch offices as of mid-2023 had declined 21.5% since their 2009 peak.

This doesn't mean branches are doomed. Rather, they are being transformed into outlets for value-added services like financial consulting and even coffee shops. Nevertheless, the growth in retail banking will come from self-service options with 24/7 availability, personalized recommendations, and instant problem resolution. The good news is that artificial intelligence (AI) can deliver these services digitally at a fraction of the cost of human-powered customer service.

The potential of generative AI (GenAI) to transform customer experience and advisory services is enormous. The Jack Henry 2024 Banking Forecast found that 44% of US CEOs expect GenAI to boost profits this year, and over half of banking executives expect to have GenAI services rolled out by the end of next year.

Potential uses of GenAI to improve customer experience include delivering personalized financial advice and product recommendations, providing multilingual interfaces for account management and customer support, automating document processing and loan underwriting, and enhancing fraud detection and risk assessment.

GenAI can also assist in poring over records needed to support the due diligence process, automating responses to customer service calls, and capturing in-person, phone, and text/email interactions with customers for analysis and service improvement.

GenAI has its challenges. Data privacy, algorithmic bias, and false or misleading responses to customer inquiries must all be worked out. Most banks are confining their early GenAI experiments to internal applications and moving cautiously on transitioning to customer-facing uses. Maintaining the human touch in critical interactions must also be considered as banks balance innovation with personalization.

The war on paper

Despite the rapid advance of digital payment technologies, paper checks remain a stubborn vestige of the past, particularly in business-to-business transactions. Although paper has all but disappeared from the consumer world, comprising less than 9% of all transactions, checks and cash still make up nearly one-third of B2B payments, [according to EMarketer](#). And despite their low overall usage, they constitute 66% of payment fraud and almost half of all consumer payments over \$500, [according to the Association of Fraud Professionals](#).

The traditional view of checks as tangible items that aren't susceptible to manipulation is increasingly at odds with reality. Reports of check fraud nearly doubled to 680,000 between 2021 and 2022, [according to the US Treasury's Financial Crimes Enforcement Network](#).

As BAI said, "Paper checks don't belong in the post-pandemic payments mix." The organization instead advocates for "a digital B2B payments ecosystem that reduces friction and fraud to further the transition from checks to electronic payments."

Banks have only so much control over their customers' payment forms, of course, but there are incentives to encourage the migration to digital payments. Digital



payments are more prompt and secure, particularly with platforms like FedNow and RTP. Accounts receivable workflows can be streamlined and cash flow improved. The cost of digital payments is tiny compared to processing checks. Delivery is faster, and there is lower risk of damage or loss.

Banking executives understand the virtues of moving away from paper. An Iron Mountain survey found that 93% of them have a goal to eliminate paper records by 2027. To accelerate the transition away from paper checks to digital payments, bank executives can educate business customers on these factors, promote user-friendly digital alternatives that are easy to adopt, step up fraud detection to protect customers during the transition period, and create pricing structures that incentivize digital payments. Printed checks may never disappear entirely, but financial institutions can do more to make them the option of last resort.



The digital transformation of banking is not a single tsunami but a series of interconnected waves, each with the power to reshape segments of the industry landscape.

Open banking's power shift

Open banking is a fundamental shift in the industry's approach to technology and competition.

Application programming interfaces provide third-party financial service providers access to consumer banking, transactions, and other financial data from banks and institutions. This model turns traditional banking on its head, transforming financial institutions from closed systems to open platforms that integrate seamlessly with various fintech solutions and third-party services.

Consumers can use open banking to share their financial data with third-party providers, such as fintechs and payment services. They can also access and manage their financial information across multiple platforms. For example, they can use open banking to apply for a mortgage without giving the bank access to their financial information. This will birth new payment capabilities, decentralized banking services, and more personalized business models.

The anticipated benefits of widespread open banking adoption include enhanced customer experiences through integrated services, increased innovation from banks and fintech companies, new revenue streams for banks that can monetize API services, and improved overall operational efficiency.

Open banking has been more widely accepted in Europe than in the United States for several reasons, including the lack of a regulatory mandate, data privacy concerns, competitive risks, and lack of standardized APIs. Adopting ISO 20022 and real-time payment vehicles like FedNow and RTP should help remedy some of these issues.

However, the transition to open banking also presents significant challenges. Sharing financial data across multiple platforms increases the risk of data breaches. If a third-party provider or bank's API is compromised, sensitive financial information could be exposed or stolen.

There is also the risk that third-party providers could misuse the data they access, such as selling it without consent or using it for purposes beyond what the consumer agreed to.

The complexity of managing and securing financial data across multiple institutions creates more opportunities for fraudulent activity, such as phishing attacks, identity theft, and account takeover. Consumers may also find distinguishing legitimate third-party providers from fraudulent ones challenging. The lack of a unified regulatory framework for open banking in the United States complicates compliance, and there is a risk that consumers may not fully understand the ins and outs of granting access to their financial data.

For banking executives, success in the open banking era will require a fundamental shift in mindset. Instead of viewing fintech companies solely as competitors, banks must see them as partners in a broader ecosystem of financial services. This collaborative approach will be essential for staying relevant and competitive in an increasingly fragmented and specialized market.

A strategic necessity

The digital transformation of banking is not a single tsunami but a series of interconnected waves, each with the power to reshape segments of the industry landscape. To navigate these turbulent waters successfully, executives must:

- Prioritize digital transformation across all aspects of their operations
- Invest in flexible, future-proof technology infrastructure
- Foster a culture of innovation and data-driven decision-making
- Develop strong partnerships with fintechs and technology providers
- Stay ahead of regulatory changes and compliance requirements
- Relentlessly focus on continuously improving the customer experience

Most importantly, banking leaders must recognize that digital transformation is not a one-time project but an

ongoing journey. The pace of technological change shows no signs of slowing, and banks that fail to adapt risk being left behind.

The digital banking tsunami is here. The task for banking executives is no longer whether or not to embrace change but how quickly and effectively they can ride the wave.

Iron Mountain can help banks successfully navigate the transition from rigid, paper-based processes to seamless digital workflows. Our information governance and file analysis and discovery tools help banks eliminate redundant, obsolete, and trivial data. Intelligent scanning converts printed documents to digital form for rapid access and integration into redesigned business processes. Content management, storage, and governance services ensure compliance and disciplined document retention practices. Our Iron Cloud secure storage solution ensures reliable long-term retention of critical business information with access to services from an ecosystem of cloud partners.

Service innovation and a track record of more than 70 years as a trusted partner for records and information management services are among the reasons 2,500 of the world's top financial services institutions and 46 of the 50 top US banks choose Iron Mountain as their partner in business resilience and digital transformation.

Explore our [Banking solutions](#) to see how we've helped financial institutions streamline their operations—while reducing costs and keeping customers secure.

About Iron Mountain

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We create the framework necessary to bridge the gaps between paper, digital, media, and physical data and extract value along its lifecycle, helping to build your organizational resilience. And all this with a commitment to sustainability at our core.

Our relationship is a true partnership where you trust us not only to preserve institutional knowledge and enhance efficiency, security, and access but to make your work mean more. Because in that work is the power to not only accelerate your business but elevate it.

Trusted by more than 225,000 organizations around the world, and with a real estate network of more than 85 million square feet across more than 1,400 facilities in over 60 countries, Iron Mountain stores and protects billions of valued assets, including critical business information, highly sensitive data, and cultural and historical artifacts. Providing solutions that include information management, digital transformation, [secure storage](#), [secure destruction](#), as well as [data centers](#), [cloud services](#), and [art storage and logistics](#), we help customers lower cost and risk, comply with regulations, recover from disaster, and enable a more digital way of working—and all this with a commitment to sustainability.



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