

The Treasury Management Playbook:

Technology Strategies and Best Practices,

a PYMNTS Intelligence and Citi collaboration, examines the challenges merchants and FIs face as they attempt to meet consumer expectations for seamless payments while managing security, compliance and product performance requirements in a competitive global marketplace.

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■ Technology Strategies and Best Practices

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The Treasury Management Playbook: Technology Strategies and Best Practices was produced in collaboration with Citi, and PYMNTS Intelligence is grateful for the company's support and insight. [PYMNTS Intelligence](#) retains full editorial control over the following findings, methodology and data analysis.

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INTRODUCTION

At this time of higher interest rates, heightened market volatility and wider economic uncertainty, actionable insights and precise forecasting may never have been more important for corporate treasury teams. Unfortunately, the wealth of data now available to large companies does not automatically transform into more effective liquidity management, cash flow forecasting or risk management. Treasury teams require an up-to-date and flexible technology strategy to leverage data to its full effect.

Corporate treasury teams need more than an organization-wide emphasis on technology or innovation to implement a best-in-class data and technology strategy. Doing so demands a tailored approach built specifically for corporate finance functions that can be scalable and flexible over the longer term. The right technology stack unifies available data sources and leverages rich data visualization and a smart analytics toolkit at the front end.



The Treasury Management Playbook: Technology Strategies and Best Practices, a PYMNTS Intelligence and Citi collaboration, offers guidance for treasury teams seeking to maximize their capabilities and impact. This report examines the challenges facing treasurers in today's increasingly complex financial and regulatory landscape and explores best practices for their data and technology strategies.



FEATURE INTERVIEW

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NAVEED ANWAR,

Global Head of Digital
and Data Platforms, Treasury
and Trade Solutions at



**on the current state of technology
in the context of corporate treasury
and what is coming next.**

For treasury teams, the pace of change has accelerated in recent years, driven by factors such as the pandemic, heightened geopolitical risks and supply chain disruptions — not to mention elevated interest rates. These and other volatile factors have raised the stakes for treasury on a day-to-day basis, according to Naveed Anwar, global head of digital and data platforms, treasury and trade solutions at Citi, amplifying the impact of cash visibility, forecasting and liquidity management.

“The greatest challenges that we’re hearing about from our network are around risk management and the ability to effectively identify, assess and mitigate various financial risks,” explains Anwar. “This includes interest rates, foreign exchange, credit and commodity price fluctuations” that necessitate complex hedging strategies. Regulations and compliance present another challenging area, requiring companies “to invest in compliance infrastructure, regulatory intelligence tools and expertise to navigate the landscape and ensure compliance across accounting standards, tax laws, geopolitical dynamics and financial regulations.”

Treasury technology has rapidly advanced in the last 10 years, according to Anwar, thanks to “widespread adoption of cloud-based management systems, advanced data analytics tools and process automation,” technologies that “improve efficiency, visibility and automation, enabling treasurers to make more informed decisions.” Today, Anwar explains, the average treasury department at a large company aims to “implement a sophisticated software stack” and has already shifted toward “cloud-based solutions, integrated platforms, data analytics, [artificial intelligence or AI], automation and cybersecurity consciousness.”

That said, Anwar cautions that there remains room for improvement. “As technology continues to evolve, treasurers will need to stay agile and proactive in adopting innovative solutions which meet the evolving needs of their organization and network.” One area of concern is that treasurers often operate behind the scenes, away from the focus of senior management. “This has historically led to underestimation of the strategic importance of treasury functions, and therefore underinvestment in technology, talent and resources.” Treasurers must therefore advocate for their departments and the critical importance they play.



Nevertheless, Anwar remains optimistic. “We have seen growing recognition of the strategic role that treasury functions play in driving financial stability, optimizing capital structure and mitigating risks. As a result, many companies are increasing their investments in treasury technology and talent to enhance their capabilities and support broader business objectives.”

Challenges around data visibility loom large for companies across sectors. “Historical underinvestment in the treasury function has created a litany of challenges for today’s treasurer that have ultimately contributed to data visibility issues for companies across sectors,” Anwar explains. Data visibility pain points can vary across organizations, highlighting the importance of leveraging external expertise and solutions that are tailored to a company’s specific needs.

“**Historical underinvestment in the treasury function has created a litany of challenges for today’s treasurer that have ultimately contributed to data visibility issues for companies across sectors.**”



However, Anwar names common challenges that cause or worsen data visibility issues: “data silos, legacy systems and a lack of standardization, manual processes, security concerns, regulatory considerations, limited analytics capabilities and real-time reporting limitations.” These and other issues lead to a lack of actionable insights despite the wealth of data available. Internally, this often takes the form of “an incomplete picture of the financial situation, delayed information sharing and inaccurate or inconsistent data.”

A best-in-class treasury data and technology strategy minimizes these and other problems. According to Anwar, this can be “characterized by its ability to address the evolving needs of the organization, enhance operational efficiency, and provide timely, accurate and actionable insights.” More concretely, it requires that best practices be implemented throughout the technology stack. On the front end, this means “A secure, scalable system,” Anwar says, that “includes creating user-friendly interfaces, improved accessibility, real-time updates, customizable reporting tools, automation that reduces manual workload, collaboration features and feedback mechanisms.”

On the back end, a gold-standard strategy leverages “a robust and integrated infrastructure that supports data management, security, automation and seamless connectivity through an integrated, cloud-based systems architecture,” Anwar explains. This demands a range of technologies, including “a centralized data warehouse that supports data integrity and consistency” as well as “advanced technologies — like AI, [machine learning] and quantum computing — that can automate workflows onto a scalable architecture.” Anwar adds that “utilizing [application programming interface] connectivity and ensuring data security protocols is critical, too.”

Zooming out, Anwar emphasizes the importance of an overarching data and technology strategy for treasury that ties into wider strategy and infrastructure at the company level. “A best-in-class treasury data and technology strategy aligns with and contributes to broader organizational goals, ensuring that the treasury function is an efficient, data-driven contributor to the company’s success.”



HOW LONG DOES IT TAKE TO ROLL OUT A BEST-IN-CLASS DATA AND TECHNOLOGY STRATEGY?

According to Citi, reaching the 90th percentile of treasury performance from a technology perspective can take as little as 12 months in the case of a younger business with a relatively modern technology stack. However, large multinationals that have grown inorganically, for example through acquisitions in different markets, could require five or more years if they have struggled with integrating legacy systems. In all cases, strong leadership is a requirement on both the strategic and technological fronts.





THE CHALLENGES FACING TREASURY TODAY

Today, treasury teams face challenges that evolve more rapidly than at any time in recent history. These include elevated volatility in cost drivers, increasingly complex regulations, accelerating technology shifts and cybersecurity risks that require a security-first approach to new solutions.

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Volatility in rates and prices:

Elevated interest rates multiply the cost of financing — and the opportunity cost of sitting on cash — which makes this the top issue for most companies. In this environment, liquidity management has an outsized impact on a firm's bottom line and requires advanced analytics and predictive modeling to anticipate cash flows and any potential gaps or excess in liquidity. Prices and the related issue of supply shortages add further complexity, especially if a company relies on inputs such as semiconductors (or the underlying raw materials), for which supply chains have been heavily disrupted.



Regulatory complexity:

Compliance with regulations has become a vastly more difficult challenge for large companies, especially those doing business internationally, since each market has its own legal requirements and rules. Human expertise alone cannot keep up with the pace of change. Regulatory intelligence tools and treasury-specific solutions are necessary to minimize or prevent costly non-compliance events.



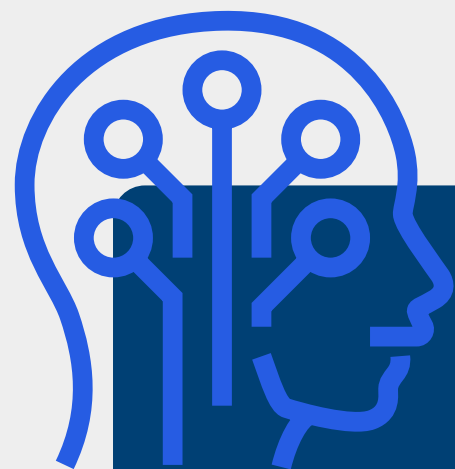
Technology advances:

While accelerating advancement in technology brings new solutions and enhanced efficiency for corporate treasury, it also can create problems. Companies that do not prioritize a systematic approach to technology quickly accumulate technical “debt” in the form of incompatible systems and data sources, among other problems, creating inefficiencies and blocking innovation. For example, many companies have a mix of older, on-premises data archives and newer, cloud-based data lakes with disparate implementation across business units, products or teams.



Cybersecurity risks:

The advantages of real-time payments for businesses are undeniable. They are fast, secure and provide maximum visibility and security. From the customer's perspective, this means instant and secure clearance and getting their goods more quickly. For corporate treasurers, real-time payments solutions simplify payments issuance, reduce the need for excess working capital and provide unrivaled visibility for both outbound and inbound funds.



AI BRINGS BENEFITS AS WELL AS CHALLENGES

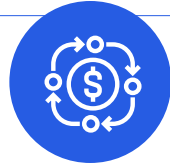
AI has nearly limitless potential and is already helping treasurers automate and streamline aspects of their roles, such as repetitive report generation. Treasury teams also increasingly use the technology to improve cash flow forecasting and risk management analytics, and it is central to a range of anti-fraud technologies used in corporate finance contexts. These and other AI capabilities will only improve as the still-nascent technology matures.

However, it is essential for organizations to roll out AI-based tools with caution. Generative AI in particular carries substantial data privacy, security and regulatory risks if tools using this technology are given any degree of open access to company data or systems. This makes IT security policies particularly important as well as training for any professional who will be allowed to use AI in new and unproven ways.

INITIAL PRIORITIES FOR NEAR-TERM TREASURY UPGRADES

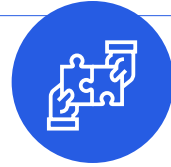
Even at companies with deep pockets, treasury teams cannot roll out best-in-class data and technology strategies overnight. Fortunately, there are several areas that require relatively little effort and time to implement, providing a set of accessible starting points for treasury teams that are ready to innovate their technology stacks.

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Automated daily reconciliation across all bank accounts:

This simple but valuable innovation can greatly reduce working capital requirements by reducing uncertainty around cash on hand. A company's banking partners as well as third-party treasury solution providers can offer a variety of options to quickly implement this upgrade.



Data visualization and analytics tools:

A strong data analytics toolkit is a cornerstone of a treasury data and technology strategy. Unfortunately, many companies remain stuck in the past, focusing on monthly reporting cycles that produce insights that can be several weeks old — often too late to act upon. A wide range of high-impact, real-time dashboards and automated reporting can be easily implemented, particularly if the underlying data infrastructure is already up to date.



Working capital management:

With a baseline of advanced data visualization and analytics in place, working capital management can be significantly improved. For example, real-time inventory, sales and receivables data provides insights into the cash conversion cycle. This can help executives refine their forecasting and provide datasets for AI and machine learning predictive models. The clearer a company's view of its immediate cash position, the more effectively its treasury team can respond to changes in market conditions or unexpected events such as supply chain disruptions due to geopolitical events.



Advanced cash flow forecasting:

A solid foundation in treasury analytics and working capital management will unlock more advanced cash flow forecasting for near-term and further-future horizons. Access to a deep proprietary well of company financial, sales and other data is crucial for high-quality forecasts, adding to the importance of implementing best practices in data management sooner rather than later. While basic modeling can be done with in-house tools, best-in-class cash flow forecasting typically requires leveraging a specialized treasury management solution.



THE “IN-HOUSE BANK” CONCEPT

Increasingly, companies are adopting a concept known as the “in-house bank” as part of their treasury strategy. This model refers to a centralized function within treasury that manages the company’s cash, liquidity and financial risks, in effect serving as an internal financial institution. The in-house bank operates like a traditional bank by pooling cash and offering intracompany lending, along with handling the approval process. It also provides other services typically offered by commercial banks, such as foreign exchange and investment management.

Citi sees growing interest in the in-house bank model, citing its potential to streamline cash management, optimize liquidity, enhance risk management and improve financial visibility and control. By consolidating financial activities, companies can achieve greater efficiency, transparency and flexibility in managing their cash and treasury functions. Additionally, this model can offer improved integration with overall corporate strategy and more seamless regulatory compliance.



BEST PRACTICES CHECKLIST: WHAT THE GOLD STANDARD LOOKS LIKE IN 2024

A best in-class data and technology strategy for treasury integrates organization-wide data management, analytics and security using cloud-based systems.

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Centralized data warehousing with standardized formats:

Treasury, along with the entire company, should store an agreed upon range of sales, financial and other data on a centralized cloud-based platform using standardized formats. This ensures that historical data can be accessed for liquidity and cash flow analysis and used to train predictive models.



An advanced analytics layer

A best-in-class data and technology strategy provides automated dashboards and reporting as well as AI-based analysis customized for each executive and team. It also leverages a user-friendly, customizable interface and collaboration and feedback mechanisms.



Robust, user-level security:

Cloud-based solutions introduce a host of new and potentially more consequential security challenges, even though cloud systems are more secure when implemented properly. Especially for centralized data warehousing and analytics that involve sensitive financial and other data, treasury needs a security-first approach to its cloud systems, with access managed and tracked at the user level to prevent unauthorized access and data breaches.



An explicit, comprehensive data and technology strategy:

Successful and sustainable implementation requires a top-down plan with buy-in across company leadership and functions. It must define treasury's overall approach to technology and support the company's wider goals and vision. The strategy must also be agile, with clear guidelines and milestones for review and updates — best-in-class data solutions cannot be implemented piecemeal or in a one-off manner.

CONCLUSION

For treasury, the technical and organizational challenges involved in achieving excellence in data and technology strategy have long since surpassed in-house capabilities, even for the largest companies. Treasurers should leverage the expertise of their banking and treasury management solutions partners to chart the best path forward.

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