INDUSTRY GUIDE

Reviewing Treasury Best Practices in Cash Flow Forecasting

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1 WHY CASH FORECASTING IS SO IMPORTANT FOR TREASURY

For as long as corporate treasury has existed, cash and liquidity management have been two of the primary responsibilities entrusted to practitioners. Today, the cash management function often includes forecasting and working capital analysis tasks as well, and in recent years, the emphasis placed by organizations on improving these functions has skyrocketed in importance.

Why is this?

By accurately predicting their company's future cash flows, treasury departments can make informed decisions regarding investments, borrowing, and overall liquidity management. Today, cash forecasting allows businesses to assess their ability to meet financial obligations, optimize cash balances, and plan for future capital expenditures. It also provides visibility into short-term and long-term cash requirements, enabling proactive measures to be taken to avoid cash deficits or excessive cash holdings.

Moreover, cash forecasting serves as a fundamental tool for risk management, allowing treasury professionals to identify potential liquidity gaps, currency exposures, and interest rate risks. With an accurate understanding of cash flow patterns, corporate treasurers can ensure that sufficient funds are available to support daily operations, manage working capital effectively, and seize growth opportunities.

In 2023, industry data has clearly highlighted the extent to which cash forecasting is being prioritized by corporate practitioners. In fact, a recent panel survey of over 250 practitioners recently highlighted that cash forecasting remains a critical priority not only for treasury, but for the CFO as well. In addition, this survey evaluated the investment plans of treasury groups over the next year and found that cash forecasting technology is top of the agenda for new spend over other areas such as payments and security[1]. While there are many reasons for this, a pronounced spike in volatility that has been impacting the corporate environment since 2019-20 is one major factor.

1. *2023 TIS & 360-Thought Leadership Treasury Priorities & Opportunities Survey*

3 REASONS CASH FORECASTING IS CRUCIAL FOR CORPORATE TREASURY

Enhanced Cash & Liquidity Positions

Cash forecasting helps treasury departments monitor and manage the organization's liquidity position by identifying potential cash shortfalls or surpluses over time. This enables them to plan and execute strategies to ensure sufficient cash is available to meet operational needs and financial obligations.

Optimized Working Capital Management

Cash forecasting aids in optimizing working capital by providing insights into cash flow patterns across the business. It allows treasury to identify areas where working capital can be improved, such as optimizing accounts receivable and accounts payable cycles, reducing inventory levels, or renegotiating payment terms with suppliers.

Improved Financial Decision Making & Risk Management

Accurate cash flow forecasts provide valuable information for making informed financial decisions. For instance, forecasts are often used to assist treasury, FP&A, and the CFO in evaluating investment opportunities, assessing the feasibility of expansion plans, determining optimal financing strategies, and managing foreign exchange risks.

2 CASH FORECASTING BECOMES CRITICAL DURING PERIODS OF HEIGHTENED VOLATILITY

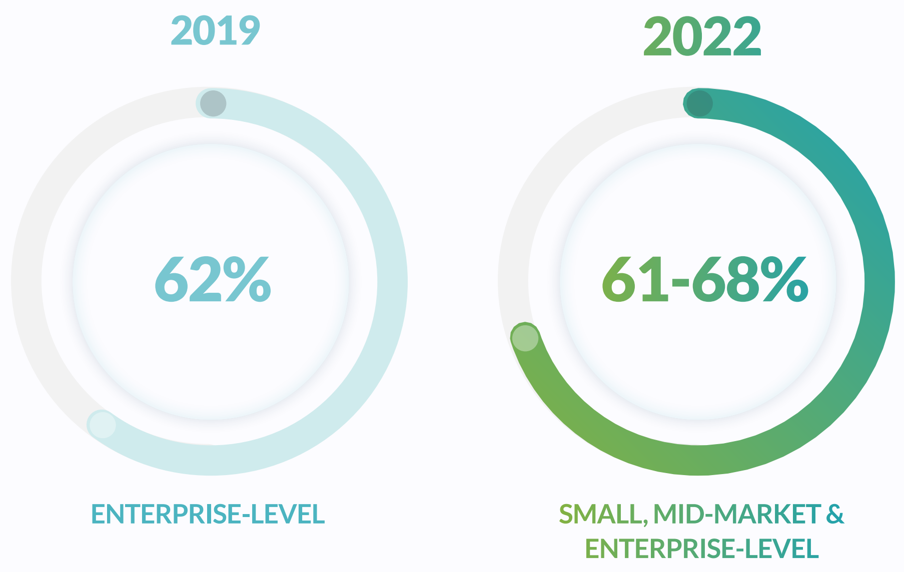
Heading into 2019-2020, numerous corporate treasury studies from Strategic Treasurer and the Association for Financial Professionals (AFP) had already shown that the importance of cash forecasting was increasing in the minds of practitioners. Following the aftermath of the 2007-08 financial crises, many treasury teams had reprioritized the forecasting function as a means of better identifying liquidity risk and preparing for adverse events. However, the 2020 pandemic and the subsequent geopolitical and supply chain crises have clearly put these priorities into overdrive for many teams.

As it stands today, a myriad of disruptions continue to exasperate the global economy and are amplifying the need for accurate and timely cash projections, as well as improved risk management and liquidity optimization. With revenue streams fluctuating, demand patterns shifting, and supply chains experiencing severe disruptions, businesses have little choice but to develop a comprehensive understanding of their cash positions to mitigate risks, ensure financial stability, and make strategic adjustments.

Going by the data, 62% of enterprise-level treasury practitioners in 2019 indicated that cash forecasting was the function they spent most of their daily time on[2]. This was higher than any other listed function including payments, security, and compliance management. These numbers increased even more during 2020, and in 2022, 61-68% of practitioners across small, mid-market, and enterprise companies indicated that developing skills for more effective cash forecasting were more important than any other skillset[3].

2019: % of practitioners who spend most of their daily time on cash forecasting.[2]

2022: % of practitioners who indicate cash forecasting is most important skillset.[3]



2. *2020 Strategic Treasurer & TD Bank Treasury Perspectives Survey*
3. *2022 AFP Strategic Role of Treasury Survey*

5 REASONS CASH FORECASTING IS PRIORITIZED DURING PERIODS OF VOLATILITY

1. More Unpredictable Cash Flows

Economic volatility often leads to fluctuations in customer demand, supplier performance, and market conditions. As a result, cash inflows and outflows can become more unpredictable. Cash flow forecasting allows treasury to gain visibility into potential cash flow disruptions (i.e. late vendor payments, reduced sales revenue, etc.) and adapt their liquidity management strategies accordingly.

2. Greater Need for Risk Mitigation

Heightened volatility brings increased risk, including potential credit defaults, market volatility, and liquidity challenges. By accurately forecasting cash flows, treasury teams can better identify and mitigate risks associated with cash flow shortfalls. This includes proactively planning for contingencies, arranging alternative funding sources, or renegotiating supplier payment terms to ensure the organization's ongoing financial stability.

3. Data Requirements for Decision Making

During periods of volatility, making well-informed financial decisions becomes even more critical. Cash flow forecasting provides treasury (and the CFO) with valuable insights and data regarding the organization's liquidity position, which enables them to better evaluate investment opportunities, assess the feasibility of expansion plans, and make strategic decisions about financing. Accurate forecasts also help minimize the risks associated with capital allocation decisions.

4. Stakeholder Communication Requirements

Sudden, unexpected, or prolonged volatility often triggers increased scrutiny from stakeholders such as investors, lenders, and regulatory bodies. An accurate and timely forecast process can quickly provide up-to-date information for these stakeholders, demonstrating the organization's ability to manage cash flows effectively even in uncertain market conditions. This ultimately enhances transparency and builds confidence among various stakeholders, partners, vendors, and customers.

5. Focus on Cash Preservation & Optimization

When cash flows are uncertain, preserving cash becomes crucial to ensure the organization's survival and resilience. Cash flow forecasting helps treasury identify potential cash conservation measures such as cost optimization, inventory management, or negotiating favorable payment terms with suppliers. It also allows practitioners to take proactive steps to manage cash outflows and maintain an adequate cash cushion.

Given the above factors, it's easy to see why cash forecasting has become so important during the past few years. But as companies increasingly prioritize the cash forecasting function, there is less and less room for error – especially since numerous other stakeholders are relying on treasury for accurate data and information.

For this reason, it is critical that practitioners adopt an automated, streamlined, and comprehensive forecasting workflow that addresses financial performance across the entire company.

Let's explore further.

3 AN INDUSTRY-LEADING APPROACH TO CONDUCTING CASH FORECASTS

Having analyzed treasury's cash forecasting functions across thousands of companies over the past few years, the below workflow represents seven of the most common (and important) steps that a cash forecast should consist of. In addition, the following infographic highlights key steps that TIS experts have identified as helping refine the forecast process even further through the use of enhanced technology.

1. Data Collection & Aggregation

Treasury must aggregate and classify relevant financial data from various sources, including historical cash flow records, sales forecasts, AP / AR data, budget information, and any other factors related to industry trends, regulatory changes, or seasonal fluctuations. Depending on the size and complexity of a company, this step might require treasury to gather data from numerous ERPs, TMSs, and back-office systems, as well as a myriad of banks, entities, and field offices globally. Given the critical importance of capturing the right data to build the forecast, this first step is crucial and great care must be taken to ensure all relevant data is accounted for.

2. Stakeholder Communication

Effective communication between treasury and AP, AR, accounting, and FP&A teams is crucial when creating cash forecasts. This is because these teams possess valuable insights and data that are essential for accurate forecasting. For instance, AP teams handle payment schedules, invoice processing, and supplier relationships, while Accounting maintains financial records and historical data and FP&A possesses knowledge of budgeting, financial planning, and performance analysis. Collaborating with these teams ultimately ensures that treasury receives comprehensive and accurate data inputs, which means this step should be completed in close conjunction with the data collection process in step 1.

3. Cash Flow Projections

Once treasury has worked cross-collaboratively with other teams to capture and classify all relevant data, the next step is to apply advanced financial models or cash flow forecasting software to analyze the collected data. Although Excel models are often used by smaller companies to complete this step, larger companies will almost surely need to deploy a software solution for additional capabilities. This step ultimately includes estimating sales revenue, factoring in collections and payment cycles, considering fixed and variable expenses, and incorporating other factors such as tax obligations, loan repayments, and capital expenditures. During this phase, it's important for treasury to understand how the length of their forecasts (i.e. 1 day, 1 week, 1 month, etc.) are impacted differently by direct, indirect, and external cash flow drivers.

4. Scenario Analysis

After a cash flow projection has been developed, treasury must then perform sensitivity analysis and scenario modeling to assess the potential impact of various factors on the anticipated cash flows. This helps identify risks and uncertainties and allows for contingency planning. In the modern era, this step often includes applying a machine learning or smart-logic algorithm against the cash flow model to evaluate gaps in reporting or any unforeseen oversights. Treasury may also run scenario analysis by different timeframes or against different market scenarios in order to understand unique impacts on their cash flows in each circumstance.

5. Variance Analysis & Review

This step involves reviewing and validating the forecast by comparing it against historical data, actual performance, and other internal or external benchmarks. This step ensures the accuracy and reliability of the forecast and is also often enhanced by applying advanced smart-logic, AI, or ML algorithms to the data for better identification of workflow gaps or reporting pitfalls. For instance, an ML-enabled review of the forecast may find that a certain supplier has recently begun to make payments a few days later than normal, which is resulting in a slight cash deficit within a certain region that may increasing borrowing costs. But regardless of what variance workflow is prepared, the important point is that treasury actually conducts this evaluation after forecasts are generated to ensure there are no significant gaps in their reporting, assumptions, or data collection.

6. Reporting & Monitoring

Once a cash forecast has been generated and evaluated across multiple scenarios, treasury can then generate reports for themselves and the rest of their organization that provide a comprehensive view of anticipated cash flows. The focus of this step is on highlighting key trends, risks, and opportunities, with a noted importance on what is causing these trends to occur (i.e. sales seasonality, inventory bottlenecks, vendor payment delays, etc.). As these reports are generated and shared with other stakeholders and groups, discussion can be undertaken to determine the most effective solution for addressing anticipated cash deficits or surpluses, such as through increased borrowing, investments, etc.

7. Adaptation & Improvement

The final step in treasury's cash forecast process is to acquire feedback and accuracy assessments from their teams on the effectiveness of their forecasts to refine and adjust the process moving forward. This step should include the evaluation of changing business variables (i.e. organic growth, M&A, etc.) or evolving market conditions. It's important to remember that the cash forecasting process is never perfect, and the variables impacting the process are constantly shifting. As a result, continual analysis and refinement over time is paramount for enhancing and maintaining long-term accuracy, reliability, and relevance.

4 10 TIPS FOR TREASURY PRACTITIONERS TO REFINE THEIR FORECASTING METHODOLOGY

As treasury teams work to refine their forecast process, the following list of considerations are those that the TIS team considers essential for treasury to include in their process. These suggestions are based on our experience helping thousands of practitioners improve their forecast solutions over the past decade. They are as follows:

1. Establish a Standardized & Well-Documented Process

Given the number of complex steps that are often involved in cash flow forecasting, it's imperative that treasury create a well-defined and documented internal process that includes clear roles, responsibilities, and timelines. Each stakeholder in the process should be aware of exactly how and when they are contributing, what metrics or KPIs are relevant for them, and what the ultimate goal of their contributions are. Achieving this not only ensures consistency and accountability in forecasting outputs, but also helps improve collaboration and "buy-in" from each member and owner in the process.

2. Drive Collaboration with Both Internal & External Stakeholders

Given the extent to which treasury must rely on data owned by other departments and stakeholders, and the degree to which these groups also rely on treasury for reports and information, this collaboration element is pivotal for forecasting success and cannot be overlooked. For treasury, effective communication with sales, AP / AR, finance, procurement, and

accounting is paramount to gathering accurate and timely data for forecasting. Depending on where and how data is captured, aligning with bank partners, suppliers, and technology vendors may also be crucial in this regard. Working with IT will also be critical in cases where enhanced technology is being deployed to assist with the forecast process. And of course, constant communication with the CFO on the reporting side will ultimately ensure that the forecast reports are put to good use for strategic decision-making.

3. Educate Stakeholders on Relevant Forecast Processes, KPIs, & Outputs

In association with the above step, treasury must ensure that everyone from management, various business units, and all involved departments understand the company's cash forecast process, KPIs, key assumptions, and potential risks. In practice, the more familiar and comfortable each group can become with the forecast process, the more engagement, support, and cooperation can be expected. This education phase may also help treasury uncover gaps or shortfalls in the forecast process, as other groups may have insights or knowledge outside of treasury's periphery that can be applied for further refinement.

4. Adopt a Rolling Forecast Methodology

Instead of relying solely on fixed-term forecasts, consider implementing a rolling forecast. This approach involves continuously updating and extending the forecast horizon, allowing you to capture near-term changes and improve accuracy. Unlike a static cash forecast, which covers a fixed period in the future, a rolling cash forecast is continuously updated and extended as each period passes. Today, rolling forecasts typically cover a short- to medium-term period, such as 13 weeks or a quarter, but can vary depending on the organization's needs. Although this method may require more work by treasury to build and maintain the model, it will also result in higher levels of accuracy and quality as new variables are evaluated and accounted for on an ongoing basis.

5. Understand Impacts of Both Direct & Indirect Cash Flow Drivers

Given the broad variety of variables that can impact cash positions and underlying forecasts, it's imperative that treasury have a firm grip on both the "direct" and "indirect" cash flow drivers at their company. Direct cash flow drivers are factors that directly affect a company's cash flow and are typically associated with the company's core business operations, such as sales and revenue, AP / AR, and various operating expenses. On the other hand, Indirect cash flow drivers impact a company's cash flow indirectly, often through balance sheet items. These drivers affect cash flow by altering the timing or amount of cash inflows and outflows but are not directly tied to revenue generation or operating activities. These include depreciation and amortization, working capital changes, and investing or financing activities. Because both direct and indirect cash flow categories will impact forecasting, treasury must monitor both sets of variables and work to incorporate them into relevant projections.

6. Monitor External Factors

In addition to internal cash flow drivers, it's equally imperative that treasury stay informed about external factors that can influence cash flows, such as market trends, regulatory changes, and geopolitical events. Given the impact of recent macroeconomic events on the corporate landscape, these factors will undoubtedly play a large role in shaping the unique cash flows at a specific company. As we've recently witnessed, major supply chain bottlenecks, geopolitical conflicts, and natural disasters can have a huge effect on inventory availability, customer spending habits, vendor payment cycles, debt interest rates, etc. So, incorporating the potential for these factors into your forecasting models is highly recommended. In order to accomplish this, treasury groups often create a scenario analysis model, as discussed more below.

7. Consider Multiple Forecast Scenarios

Because no person (or technology) can fully predict the future, treasury should incorporate an element of multi-scenario analysis into their forecasts to assess the impact that various future situations or circumstances will have on cash flows. As part of this strategy, it's important to consider both optimistic and pessimistic scenarios to gain a comprehensive understanding of all relevant risks and opportunities. Given recent unpredictability in the global financial markets and economy, scenario analysis is very useful for determining how certain events, such as a sudden drop in sales revenue due to a recession or unavailability of inventory due to supply chain constraints, could impact cash flows.

8. Routinely Perform Variance Analysis on Forecast-to-Actual Results:

The only real way for treasury to improve their forecasting accuracy over time is to compare the results of their forecasts against actual results to identify gaps in reporting or errors in assumptions. For this reason, practitioners must regularly evaluate forecasts against actuals and review the accuracy of their forecasting models. In the modern era, leveraging AI, ML, or smart-logic models that can conduct this analysis on your behalf and help identify gaps in data quality or forecast assumptions is quickly becoming a best practice. Ultimately, this step will enable treasury to quickly identify shifts in cash flow metrics (such as for DPO / DSO), identify data input errors (such as missing invoice or bank statement records), and make other adjustments to increase accuracy based on missing information or inaccurate projections.

9. Lean on Consultants & 3rd Party Experts to Effectively Apply Technology

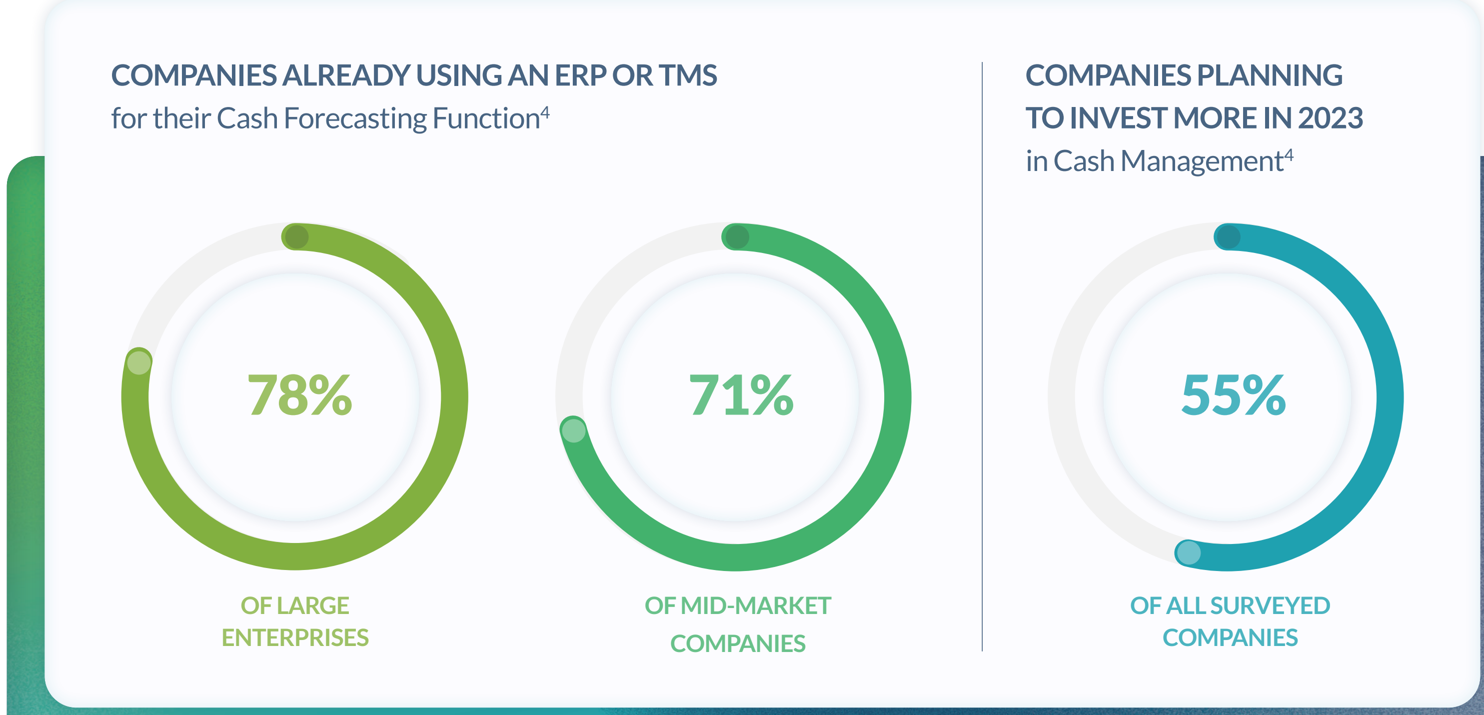
In the modern era, it's nearly impossible for treasury to conduct cash forecasting without the help of one or more technology platforms. However, there is still a fair degree of complexity involved with correctly applying these solutions. For this reason, it's recommended that treasury teams seek guidance from external experts regarding what solutions can be best applied to their unique scenario to achieve true transformation. Today, cash forecasting technology is most often deployed to eliminate the use of spreadsheets, integrate various source systems together to streamline data collection and classification, or to apply ML or smart-logic algorithms against forecast outputs to evaluate their accuracy, comprehensiveness, and quality. Based on 2023 data, nearly 78% of large enterprises and 71% of mid-market companies were using either a TMS, ERP, or niche cash forecasting solution to manage the forecast function. In addition, 55% of all surveyed companies planned to invest in more cash management / forecasting technology over the next year – more than in any other category of spend including payments and security[4]

10. Conduct Annual or Semi-Annual Audits of the Forecast Process

Cash flow forecasting is an iterative process. As highlighted throughout this paper, all of the factors and variables that impact a forecast are under constant flux, including both macroeconomic, external variables as well as internal direct and indirect cash flow drivers. Even the personnel and technology solutions used to complete forecasts are constantly changing. For these reasons, it's essential to regularly review and assess your forecasting methods, tools, and KPIs

4. *2023 TIS & 360-Thought Leadership Treasury Priorities & Opportunities Survey*

(outside of the standard variance analysis process) to identify larger, more structural elements that need refined. Although the entire forecast process does not need to be overhauled every year, conducting these audits will ensure that legacy solutions or processes are identified in a timely manner and strategies can be put in place to correct them before a major shortcoming hinders the broader workflow.



4. *2023 TIS & 360-Thought Leadership Treasury Priorities & Opportunities Survey*

5 USING THE TIS CLOUD PLATFORM TO TRANSFORM CASH FORECASTING RESULTS

For organizations that recognize a clear need to upgrade their cash forecasting processes but do not know where to start, we strongly encourage you to evaluate the award-winning solutions provided by TIS.

TIS' cloud-native cash forecasting solution works by aggregating an organization's global cash, banking, and payments data into our system and supplementing it with forward-looking AP, procurement, and sales data to provide a comprehensive evaluation of anticipated short and long-term cash positions. Forecasts can be evaluated through variance and scenario analyses and reviewed according to any time horizon. TIS also provides extensive drill down capabilities so that users can view the impact of specific variables and inputs within their forecasts in granular detail.

Finally, TIS' built-in smart logic analyzes forecast data over time and recommends improvements based on gaps in reporting inputs or information quality. All of these capabilities are provided with enhanced analytics and visual reporting features so that users can quickly and accurately determine their positions, gain valuable working capital insights, and share outcomes with other departments and business leaders.

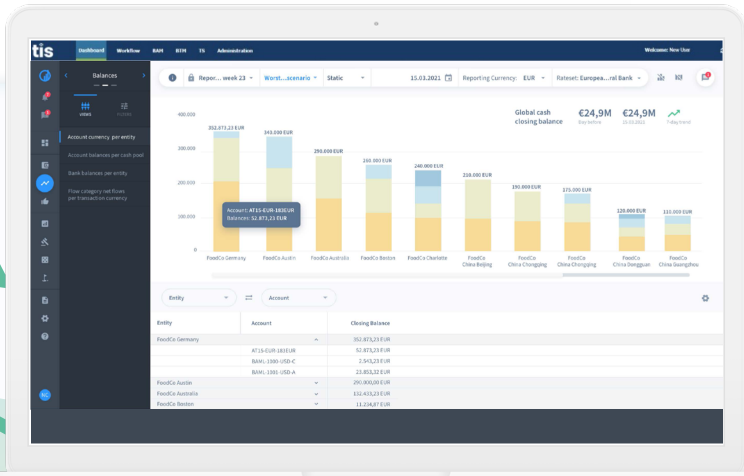
As an added component of these tools, The TIS Working Capital Insights solution provides global businesses with 360-degree visibility and control over all their core working capital metrics and KPIs. With this suite of capabilities, organizations can seamlessly integrate their ERPs and corresponding AP and AR data with our solution in order to review payment terms and behavior for vendors and customers, analyze invoice and billing activity, and measure all elements related to their net working capital status and cash conversion cycle.

As TIS enables clients to aggregate and classify their data, users can evaluate their metrics globally or granularly according to specific entities, regions, or customers and suppliers. Users can also leverage TIS' visual dashboards for intuitive reporting and refine their analyses by any timeframe to view activity and cash flows through customizable and flexible parameters.

For more information about these capabilities and the benefits they provide, refer to the below links.

We hope to hear from you soon!

DISCOVER TIS' AWARD WINNING CASH FORECASTING SOLUTION



EuroFinance Treasury Excellence Awards 2023

Digital Transformation

treasurytoday Adam Smith Awards 2023

Best Cash Flow Forecasting Solution

2022 Working Capital Awards

Best Cash Forecasting Initiative + Best Use of Technology for a Working Capital Project

"The business case for implementing CashOptix has become clear. Time spent on compiling forecasts and reports has easily decreased by 70%, human intervention is reduced and subsequently operational errors have all but disappeared. The streamlined process also means no more delays to our forecasting or reporting. Overall we are delighted by the forecasting experience with TIS."

Riana van der Merwe - Head of Treasury

tomtom

"Without TIS, peak borrowings would have been at least £100m higher, so the system more than pays for itself."

James Kelly - Group Treasurer

Pearson

Cash Forecasting INDUSTRY GUIDE

LEARN MORE ABOUT:

- The TIS Cash Forecasting Platform
- The TIS Cash Reporting Suite
- The TIS Working Capital Insights Solution

READ THE SUCCESS STORIES:

- TIS + UNILEVER Cash Forecasting Success Story
- TIS + KELLOGG'S Cash Forecasting Success Story
- TIS + PEARSON Cash Forecasting Success Story

WORKS CITED

1. *2023 TIS & 360-Thought Leadership Treasury Priorities & Opportunities Survey*
2. *2020 Strategic Treasurer & TD Bank Treasury Perspectives Survey*
3. *2022 AFP Strategic Role of Treasury Survey*
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ABOUT TIS

TIS helps CFOs, Treasurers, and Finance teams transform their global cash flow, liquidity, and payment functions. Since 2010, our award-winning cloud platform and best-in-class service model have empowered the entire office of the CFO to collaborate more effectively and attain maximum efficiency, automation, and control. By streamlining connectivity between our customers' back-office systems and their worldwide banks, vendors, and business partners, TIS enables users to achieve superior performance in key areas surrounding cash forecasting, working capital, outbound payments, financial messaging, fraud prevention, payment compliance, and more.

With over 11,000 banking options, $80 billion in daily cash managed, and $2.5 trillion in annual transaction volume, TIS has a proven track record of combining our unparalleled market expertise with tailored client and community feedback to drive digital transformation for companies of all sizes and industries. As a result, hundreds of organizations and thousands of practitioners rely on TIS daily to gain strategic advantage, monetize data, improve operational efficiency, and better manage risk.

For more information, visit **tispayments.com** and begin reimagining your approach to global cash flow, liquidity, and payments.

TIS IN NUMBERS

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1k+ Systems CONNECTED	130k+ PMT PROFILES	11k+ Bank CONNECT OPTIONS	72k+ Bank ACCOUNTS
~41 Million UNIQUE PAYEES	$2.5 Trillion ANNUAL VOLUME	99.7%+ SYSTEM UPTIME	100% NATIVE CLOUD

**Statistics are representative of operations as of Q1 2023, unless otherwise noted.*

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