

Data-led treasury

Enhancing treasury performance

February 2024

Introduction

Data is at the heart of the digital transformation journey. It represents a colossal resource, one that is accelerating in both its importance and its scale. Data is an opportunity, but also a challenge, and one which requires treasurers to adapt their ways of working.

The importance of data is not new: treasurers have used data for years to help them forecast cash flows, manage liquidity and ensure appropriate levels of funding, drawing from Enterprise Resource Planning (ERP) and Treasury Management System (TMS) sources to find the right information.

But the power of data is evolving and has never been more potent than today. Treasurers have the opportunity to receive and analyse data in a way that generates valuable insights, potentially in real time, bringing a major step forward.

Doing so, though, requires a change in the treasury toolkit. Historically, treasurers could use models based on spreadsheets and other basic tools to predict cash flow requirements. But spreadsheets alone are not fit for purpose in the modern treasury environment: there are issues with version control, data quality, audit logs and increasingly complex formulae. Treasurers need tools that assist them with the understanding and interpretation of that data through deep analytic tooling. As the volume and complexity of data increases, treasurers must turn to integrated fit-for-purpose tools to help them manage increasingly complex treasury operations.

In the modern environment, large amounts of treasury resources can be consumed just obtaining and reconciling necessary data – a challenge that steepens

About HSBC

Treasury Solutions Group

Our Treasury Solutions Group (TSG) brings ideas, expertise and experience to businesses who are actively seeking to transform their treasury. We support treasurers and encourage them to apply these ideas and strategies in practice during their business transformation journeys.

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when dealing with multiple accounts, banks and countries. Yet treasurers must do much more than collect: they must adapt and leverage their data sets to make important financial decisions.

They must do so because of a number of compelling drivers. The need for **strong risk identification and management** in an increasingly complex and volatile business environment is increasingly important – and data helps treasurers to build it. **Digitisation**, a mainstay of any modern treasury journey, is fundamentally driven by data. **Data literacy** is also at an all-time high, democratising the effective use of data analytics, and making these skills a must-have within treasury functions.

While this is a challenge, it is also an opportunity. As data analytics becomes a crucial pillar of modern treasury management, assisting treasurers in making better decisions, it also allows treasury functions to make greater contributions to financial performance through their insights on cash management, liquidity and risk.

Value in data across liquidity and cash management

Real-time data

Organisations have always had access to data about their operations, but not until now has it been possible to access that data in real-time – and to transform it swiftly into meaningful, valuable and actionable insights. A treasurer who can conduct immediate analysis and decision-making is genuinely a strategic partner to their business. Their data-led insights help them explain to management not only what happened in the past and what is happening today, but, vitally, what is likely to happen in the future.

There are numerous sources of data: ERP, TMS, Customer Relationship Management (CRM), accounts receivables and payables, and partner banks, particularly if a bank has developed an Application Programming Interface (API) with the client. Collectively, these sources create a wealth of data relevant to daily activities and long-term planning, right across the suite of treasury functions.

Cash flow forecasting

This is one of the clearest areas where data can benefit corporate treasurers, but it requires them to move beyond time-consuming and error-prone spreadsheet technology.

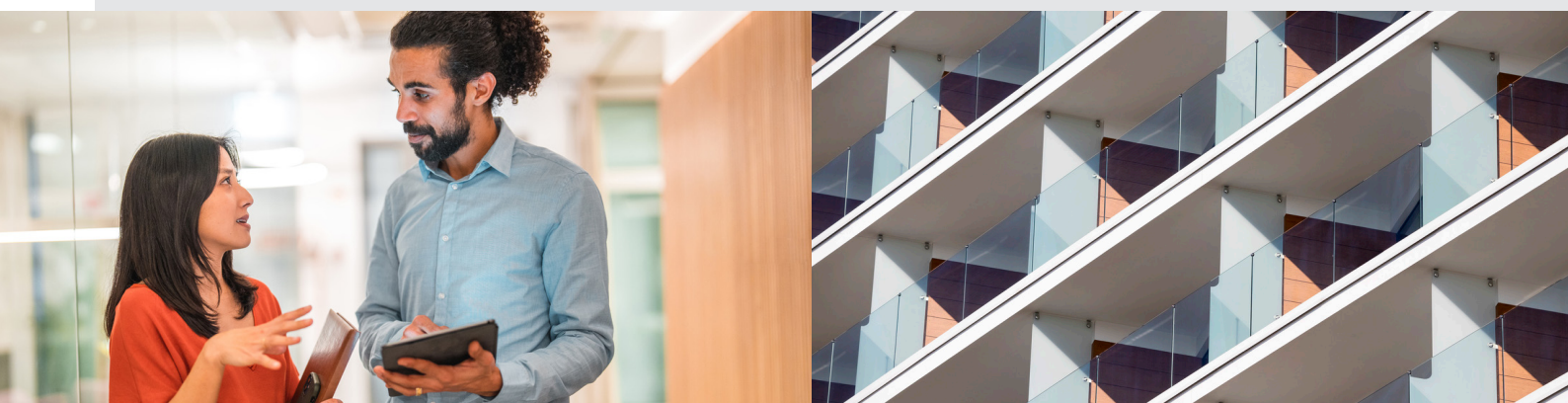
Specifically designed data-led cash flow forecasting tools can consume feeds from a host of data sources – bank statements, accounts payable, receivables, payroll, tax payments – and bring them into a single format. Cash flow forecasting tools can then deploy predictive analytics to build complex forecasts of cash flows, improving the accuracy of those forecasts beyond static historical data.

Machine learning technology moves these predictive analytics models towards steadily greater accuracy. The result is a robust, holistic picture of treasury positions. That, in turn, allows the team to deploy spare cash across the organisation in the most effective manner, be it paying down debt or investing surpluses.

Accounts payable

Payments data, such as that contained within invoices, represents a valuable source of information. This has an impact from the broad perspective of cash flow management, but also at a more micro level explains what is being purchased and what taxes can be reclaimed.

Many corporate ERP systems are already efficient in automating transactional processes and ensuring they adhere to internal policies. But this is not the same as



real data-led insights that help treasurers to identify opportunities for cost savings and to make informed strategic business decisions.

An example of an actionable insight from payments data analysis would be a situation where a treasurer wants to reduce costs in payables and improve payment operations. Data analysis can reveal inefficient payment methods where a company has a high number of buyer and supplier relationships, saving time and resources.

Other examples include ensuring an entity and its departments are spending in line with payment policies while meeting key performance indicators or identifying strategically important suppliers – including smaller suppliers – to determine the payment terms that will drive better working capital performance. In this instance, a use of data in one discipline of treasury can have positive effects elsewhere.

Data also helps corporates to visualise spending trends, making it easier to forecast spend across a business. Greater clarity on forecasting then allows for improved cost control and more accurate budgeting.

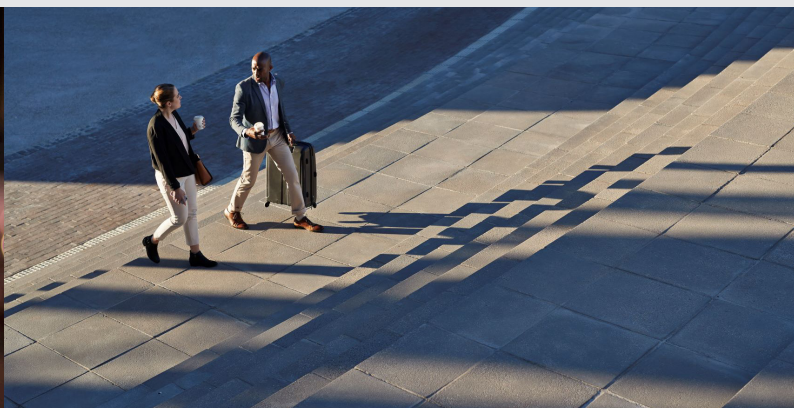
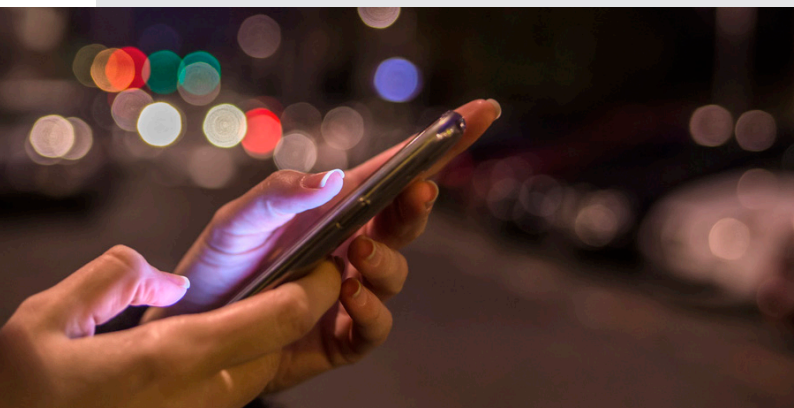
Accounts receivable

Efficiently processing cash coming into a business is critical to maintaining adequate levels of cash flow. Insights from receivables data can improve the function's performance.

A fundamental goal for receivables management is the evaluation of customer credit risk. Another is the tracking and pursuit of invoice payments. The relevant data for these goals tends to be held in two different places – sales invoice data in the ERP system, inbound payment data in TMS – and the combination of these sources paints a complete picture of accounts receivables and the patterns they contain. This includes, for example, invoices that are paid in full, early, late or not at all.

When this information is displayed in a single place, it helps the treasurer to visualise what is happening across the whole accounts receivable function. Then, the patterns that are revealed around payment history allow the treasury team to build a risk analysis and credit score based on historical performance.

This is where predictive analytic tools can be useful, combing through large volumes of data to identify patterns and trends using regression techniques and



other statistical methods. More advanced financial predictive analytics algorithms can take these patterns around credit risk and default likelihood, and potentially predict the date when a customer can be expected to pay. That, in turn, provides actionable insights to deliver more accurate cash flows and optimise working capital.

Data benefits through ISO 20022

ISO20022 is a flexible standard for financial messages that enables interoperability between financial institutions, market infrastructure participants and customers. The standard supports the inclusion of richer and better-structured transaction data in payments messages, with the aim of enabling less manual intervention, more accurate compliance processes, higher resilience, and improved fraud prevention measures. Both banks and their customers should be ready to support the new language in these standards. ISO 20022 adoption will take place over multiple years.

The evolution of ISO20022 creates an opportunity for corporate treasurers to embrace innovation. The standard covers payment flows that include real-time payments and treasury payments but also local low-value payments and bulk payments. ISO 20022 adoption will provide benefits to the entire payments ecosystem: banks, market infrastructure, and to the banks' customers:

- ◆ Rich structured party data and increased field size will provide greater levels of transparency and create efficiencies by reducing delays caused due to unstructured, incomplete or inconsistent data.
- ◆ By adopting dedicated returns and investigation messages and using standardised return codes, delays in applying returned funds to the customers and responding to inquiries from other banks will be drastically reduced.
- ◆ By maintaining dedicated reference fields that remain unaltered in the end-to-end payment journey and introducing structured remittance data, customers' reconciliation capabilities will be augmented.
- ◆ Greater message harmonisation across the entire payments industry, with a universal message type for all payments, will help faster integration with many more schemes.

So the new format is a win for any corporate data strategy. The structured, machine-readable data of the format allows payments to carry significantly more data, which reduces the need for manual intervention and therefore the pressure on time and resources for treasury. It allows for greater automated reconciliation of receivables and cash allocation. And it makes it easier to assess why payments have been made and to whom, and consequently to develop actionable insights.

Releasing the value in data

Harnessing the power of data requires a structured approach, with some key attributes.

1. Set clear objectives

It is more useful to hone in on a specific task than to attempt a general and overly broad 'big data project'. By seeking to correct an inefficient process, and understanding the value in the data that can correct that inefficiency, it is easier to align stakeholders on a project. Clear objectives based around the creation of business value will help an idea gain support and traction.

2. Understand potential opportunities

Identifying treasury workflows and the types of data they use will help to build a collective understanding of business opportunities or efficiencies to achieve. A holistic view of these workflows will reveal the links between data sources and objectives. Engaging different stakeholders within an organisation is an important part of this ambition: bringing people and processes closer to one another creates shared value.

3. Document learnings

It is useful to write up experiences along the way in a data-led transformation. This information can act as the first draft of a data strategy that can then be built upon and shared with the team.

4. Data analytics

It is important to understand that data analytics involves a series of steps, each of them important, and a data journey must involve each of them:

- ◆ **Data collection** takes the data from the sources in which it is held, such as bank statements, cash flow statements, financial reports or market data.
- ◆ **Data cleaning:** data is not usually created purely for analysis, so it must be cleaned, validated and processed before being ready for analysis. This includes the removal of duplications, and filling in any information gaps.
- ◆ **Data analysis:** this relates to finding meaning in the data through the discovery of trends and variations within it.
- ◆ **Data visualisation:** This could include using maps, charts or graphs to display data in a meaningful way. This allows trends or variations in data to be easily understood. It also allows for faster insights and better decisions, which help to improve the cash management function and meet business value objectives.

When building and executing a data-focused strategy, it is useful to take a moment to reflect upon how that strategy will come together. That means creating awareness of a project within the business, identifying the resources and skillsets required to implement it, and considering all stakeholders. Clarity on these things will make it easier to maximise the potential of technology solutions, such as artificial intelligence (AI) and automation technologies.

Value in data analytics

Data is useful, but only with analytics to turn it into actionable insights that create value and better decision-making in treasury. Analysis of historical data, cash flow patterns and market trends can lead treasurers to enhanced cash management strategies, from funding to working capital, predictions of receivables or improved payment operations.

Analytic techniques relevant to treasury include **data mining**, **predictive analytics**, **artificial intelligence** and **machine learning**. Examples where these tools are useful to treasurers include:

Monitoring fraud and compliance

Monitoring financial activities through data analytics allows treasurers to identify potential issues that could help ensure adherence to internal and external policies and regulations.

Measuring financial performance and optimising working capital

As the adage goes: you can't manage what you can't measure. Advances in data analytics allow treasurers to measure more data points, and then to provide a more effective analysis of what those data points say about what is happening across an organisation. This creates opportunities to take corrective action, amend targets, and set appropriate key performance indicators (KPIs) to measure the effectiveness of initiatives. An example here is optimising working capital through the analysis of inbound and outbound payment data.

Strategic planning

When analysis pulls together all available data sources, it helps treasurers align their work and strategy more closely with their organisation's broader strategic goals.



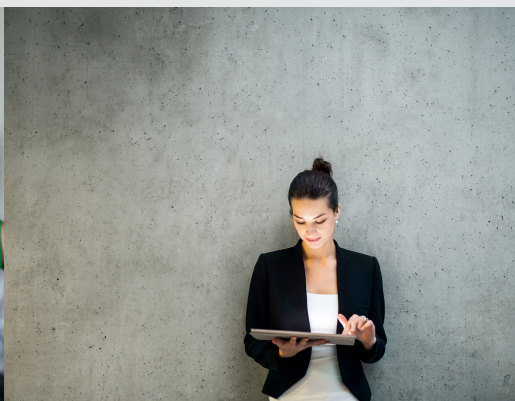
Automation and AI

Treasury departments have been using automated solutions for many years to streamline processes while minimising risks. Automated payment instructions are commonplace, resulting in faster payments with greater accuracy because of fewer manual errors. Automated email notifications assist in reminding relevant staff of upcoming deadlines or treasury actions.

Systems providers are integrating solutions like these into their TMS, with an increasing use of AI. For example, payment fraud detection software uses AI to check payments against historical payment data. An engine then analyses this data, identifying anomalies today and in any future activity.

Users can set their own tolerance levels according to their sensitivity to fraud detection, which is important, because an overly sensitive system will generate too many false positives and disrupt the payment process. With an integrated workflow in the TMS, any suspicious payments can first be reviewed and then either rejected or cleared for further approvals.

Fraud detection is just one example of the benefits of AI in payments processes. Used properly, it brings efficiency and improved risk management.



Challenges and pitfalls

Implementing an advanced data and analytics programme within a treasury function is not an easy undertaking. It requires detailed planning and the navigation of several common challenges which must be understood and addressed.

Data silos

Data often exists in a multitude of silos around an organisation. It is important to understand where these silos exist, who owns them, and if they can be broken down. Creating a golden source of data which can be controlled should be a key aim of any treasury data strategy.

Quality

The quality of data across an organisation is likely to vary widely. This is a common issue for treasury teams, and it emphasises the need for data governance and control. The methods through which organisations store, validate, refresh and destroy data will be more effective in a next generation data-led treasury function than a less progressive treasury, which will lead to a corresponding difference in overall data quality.

A data cleansing and enrichment programme will give a treasury team confidence in data and, by extension, the output of data analysis. A data governance strategy and policy is also important. Once data sets are in order under a policy, they become easier to manage in future.

Quantity

The sheer volume of available data can become daunting, along with the myriad sources that produce and export it. Too many inputs can create a confusing situation. It is important to stay close to the treasury strategy, and to the outputs that data is intended to achieve. Less can sometimes be more.

Inefficient or outdated technology

Technology marches relentlessly forward, and most organisations will face times when they do not have the technological capabilities to manage and support the data sets of most value to their treasury. It is important for treasurers to understand this, and to have a clear sense of what they need from technology.

Lack of data literacy

Data requires a specific skill set from treasury personnel. Some team members may lack the skills necessary to get the most value from a next-generation data tool suite, particularly if it involves bespoke predictive analytics algorithms. It is important both to upskill existing staff and hire data-centric skills into the organisation.



Grasping the data opportunity

As the treasury digital transformation agenda advances, significant amounts of data are being generated – representing a powerful opportunity for treasury functions. Treasurers who can unlock actionable insights will reap the benefits of faster and more accurate decision-making, supporting the strategic and commercial ambitions of their organisation.

But this opportunity will only be fully realised if internal stakeholders and external partners work together toward a common focused objective based on business

value. Understanding treasury workflows and the data source they utilise will indicate the opportunities available and allow the beginnings of a data-focused strategy.

The challenges are considerable, and the preparation that goes into surmounting them is wide-ranging and onerous. But the potential outcomes more than justify the work that is put in. Data is one of the most powerful resources in the modern treasury world, and the only thing that can be said with certainty about the future is that data's importance will only increase.

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