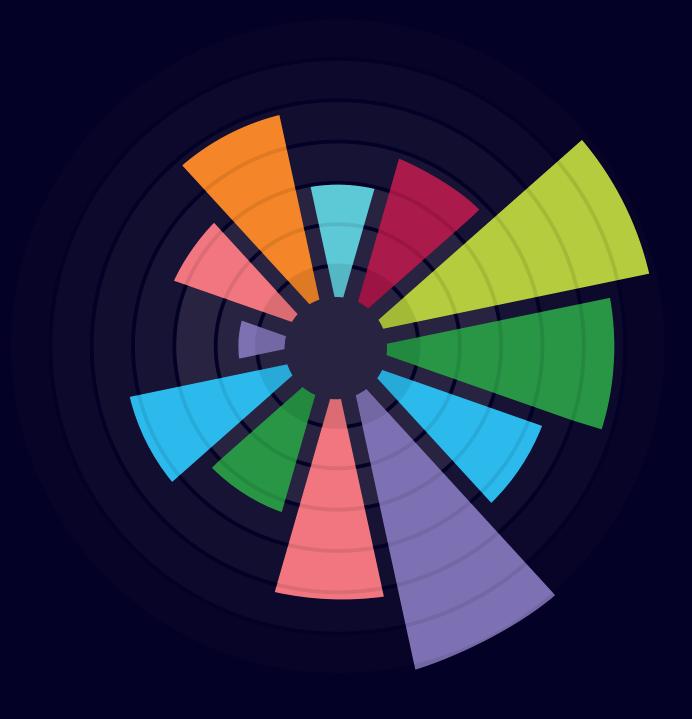
ACT INTERNATIONAL TREASURY PEER REVIEW

Best practice guide







Overview of Guide and peer review findings

The following guide has been produced to accompany the inaugural ACT International Treasury Peer Review. As the guide was being put together, to draw out some of the best practices the ACT and Deutsche Bank, as well as other treasury professionals, are observing in the profession, we also felt it would be useful to highlight certain pertinent findings coming out of the actual review.

When assessing what makes a good treasury, it is important to start with the fundamentals: the set-up and structure of the department. One of the keys to an efficient treasury structure – as explored in this guide – is centralisation. The results of the survey, however, showed that treasurers are still somewhat behind the curve in this regard, with only 42% of respondents stating that they operate a fully centralised treasury while the majority of 55% has a partially centralised treasury. At the same time, some treasury teams are taking the efficiencies of centralisation one step further – breaching the confines of treasury to streamline the entire organisation – by utilising shared service centres, an approach that 41% of respondents confirmed they are leveraging. Another step to drive centralisation is to set up an in-house bank, with 69% of respondents revealing they already have this in place at the headquarter, regional or local treasury level.

One of the keys to effective centralisation of treasury operations is technology – and an important part of this is having an effective Treasury Management System (TMS) in place. Interestingly, however, only 13% of respondents picked implementing a new TMS as their number one medium-term priority. Given current resource and IT budget constraints, as well as the fact that many treasurers may be content with their current solution, this may not come as a major surprise to many. Yet, at the same time, 26% of respondents did reveal that they still use a spreadsheet solution instead of a TMS – something that is particularly prevalent among regional treasurers. Put simply, and as outlined in the following pages, a TMS is not right for every company – and there are a number of factors to consider before implementing such a solution.

That said, one area where a TMS can prove invaluable is for corporates looking to build out their e-commerce presence. This has become a hot topic in recent years, with the COVID-19 pandemic having accelerated the transition to online, rather than in-person, sales. This is reflected in the survey, which reveals that 78% of respondents have already implemented e-commerce solutions, with over 75% of these operating their own B2B or B2C marketplace, and the remainder utilising a third-party marketplace.

The findings of the survey also highlight that the first steps to developing a data-driven treasury are well underway, with 70% of respondents stating that they have automated visibility of 75% or more of their cash balances. Other technologies will likely play a key role in this development, but treasurers are further behind the curve than the headlines might suggest. The oft talked about application programming interfaces (APIs), for example, are currently only used to connect to bank systems by 7% of corporates. While good foundations have been laid, there is still a long way to go to achieve a truly data-driven treasury.

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Best practice guide:

An introduction from the ACT



Caroline Stockmann
Chief Executive, Association of Corporate Treasurers (ACT)

I am very pleased to welcome you to this guide to treasury best practice, which accompanies the *ACT International Treasury Peer Review* we have carried out during 2021. Formed of inputs from a variety of sources, we have looked to include case studies and articles that will really give a best practice perspective on a range of topics close to the treasurer's heart. If it meets our aims, this guide should not only provide you with a good read, but also inspire you to think about how you might do things differently in the future.

I would like to thank all who have contributed to this guide, especially as you all have such busy day jobs, and in particular recognise Deutsche Bank's support of the whole review. We believe it is one of a kind, given the partnership between the bank, who knows its clients and its own areas of thought leadership, and the Association of Corporate Treasurers (ACT), whose policy and technical team as well as member volunteers have worked to make this a real value-add to the treasury community.

The ACT continues to represent the treasury community as well as the real economy in all that it does, and I'd again like to thank our members for their ongoing contributions to make the treasury community a vibrant and exciting place to be.

Best practice guide:

An introduction from Deutsche Bank



Ole Matthiessen Deutsche Bank, Corporate Bank, Global Head of Cash Management

Treasury transformation is by no means a new topic. It has been ongoing for many years, with digitalisation, richer data and more effective cross-company collaboration often topping the agenda for treasurers. Yet, while effective change was already underway, COVID-19 – and the accompanying working-from-home environment – has put these topics into sharper focus.

As a result, the way treasury teams are structured and operate is evolving - and doing so faster than ever. What was once considered 'best practice', often no longer meets the needs of today's treasurer. In fact, the challenge regularly runs much deeper than this. It is not just a case of not meeting a normal progression of needs, but the rapid evolution facing them has left treasury teams redefining what best practice means in a working-from-home and a real-time treasury environment.

To update and redefine best practice, the Association of Corporate Treasurers (ACT), with our support, has developed its inaugural *International Treasury Peer Review*. The review, which incorporates responses from more than 200 corporates globally, has been designed to help treasurers benchmark their practices and operations against their peers – with a focus on the geographical and industry-specific factors involved in decision-making. In other words, what makes sense for a regional treasurer of a chemical company operating in Asia might be different to what is appropriate for a group treasurer of a European automotive business.

To complement the research, which highlights how treasury teams are organising themselves, how they are dealing with today's challenging environment and what their key priorities are going forward, the ACT has also put together this best practice guide to treasury. The guide covers a lot of ground – and as you flick through the following pages, you will learn about all aspects of treasury, from how to set up your department and how to integrate environmental, social and governance (ESG) into your operations, to how data is the key to unlocking a real-time treasury. As you look to adjust your treasury operations to keep pace with the digitalisation of the wider business, we hope this guide acts as a useful companion on your journey.

Structuring a world-class treasury department

Traditionally, treasury functions have been responsible for delivering core strategic activities, such as centralised funding and liquidity – with many other activities remaining localised. However, as businesses have become more complex and integrated, treasury departments are changing to meet the new challenges that accompany such a transformation. Today, treasury departments are becoming increasingly centralised and are integrating strategic delivery with operational and regulatory activities.

Diana-Iulia Macarascu Head of Global Treasury Operations, BAT

With this in mind, what sets apart today's leading treasury departments? World class treasury departments are driving the corporate agenda – playing an integral part in its delivery, rather than providing a standalone effort. Top-performing treasuries are proactive and agile – using resources efficiently to manage risks and eliminate surprises. They are supported in these endeavours by the organisational design, with an over-hierarchical structure often proving an impediment.

Delivering a world-class treasury

The key to treasury delivery is visibility and connectivity. Cutting-edge technology, while ideal, is not always required. That said, treasuries should organise themselves in a way that allows them to fully exploit all the information available in a timely manner. Systems should provide global information at a macro level on liquidity, cash and risk, such that they are capable of drilling down on, but also supporting, the automation of routine tasks. Increasingly a core system spine is augmented by specialised add-ins to enhance the overall landscape.

Focus and alignment are provided from the centre – interpreting the strategic agenda, setting policy and driving efficiency targets. However, strong empowerment also needs to be enabled beyond the centre in business partnering and transactional execution.

Key performance indicators (KPIs), driven from the information systems, should allow the empowered structure to maintain focus on delivering the overall business and treasury agenda. This allows treasuries to move from a decentralised policy-driven structure to one empowered by information.

Empowered centralisation

Empowered centralisation aims to eliminate duplication of effort to foster efficiencies and improve outcomes across the entire organisation. Utilising a shared service centre space, with oversight of the information, policy and technology that supports treasury activities, can provide opportunities to bring centralisation to execution at an organisational level. It is no longer limited to purely transactional activities. Traditional areas such as cash management can be further enhanced to streamline bank relationships, fee monitoring, and payment consolidation to provide further control over transactions. Virtual accounts and automated matching can also enhance the order-to-cash delivery.

Financing costs can be reduced and operating flexibility improved through the creation of an in-house banking infrastructure. Moving further up the value curve, centralised hedging strategy and processes allow for aligned systems and procedures, which in turn can improve visibility, netting, accounting and expert execution. Short term liquidity management, through commercial paper, money market funds, deposits and foreign exchange management, can be provided centrally for the whole group by small teams facilitated by the information spine and are only constrained by local regulation.

Increasing complexity, knowledge and expertise in the shared service setting allows flexible organisation choices for the origination and execution of strategic areas such as macro risks, including balance sheet currency, interest rates and potentially capital market issuance.

Beyond centralisation

Centralisation alone, however strong, is not enough. To succeed in its objectives, a world-class treasury function needs to be interconnected and to communicate efficiently with both internal and external stakeholders. The treasury function needs to be embedded within the organisation, capturing strategic and operational requirements. Small focused business partnering teams, which are properly engaged with departmental management, can interpret global focus areas, drive KPIs and help local management deliver the business results. This can help organisations to fully exploit the centralised expertise. The treasury function is also an important input signal source – translating macroeconomic events into actionable insights to manage risks and exploit opportunities.

Finally, the highest levels of performance are dependent on strong alignment. Alignment of objectives, systems and processes, with all other internal functions, leads to powerful delivery across the business. Centralised teams must use the flat organisational structure to enhance communication with the rest of the business and also with external partners, such as banks.

Treasury teams of today play an increasingly integrated role and act as centres of expertise within the business. The organisation of the team to enable empowered delivery provides for increased opportunities to drive high quality execution in a centralised and shared service environment.

The treasury function needs to be embedded within the organisation, capturing strategic and operational requirements.

Diana-Iulia Macarascu

Managing cash in challenging markets

About Mantrac: Mantrac operates predominantly in sub-Saharan Africa, Egypt, Iraq and Russia and is one of the world's largest authorised Caterpillar dealers, providing industry-leading machine and power solutions across 12 territories, with revenues of approximately USD1.5bn

Roshun Tulken Group Treasurer, Mantrac Group

Q. What are the cash management challenges Mantrac faces in the markets that it operates in?

There are two principal challenges for the organisation.

Firstly, Mantrac is a capital-intensive business with high working capital requirements. This is generally due to the inventory we must hold in relatively remote locations and the lead times between buying from Caterpillar and then selling to the end customer.

Because of this we need to be as efficient as we can with our cash management and ensure we have visibility of every dollar available to the group to repatriate and repay debt.

The second is that each country that Mantrac operates in has its own challenges, for example:

- Nigeria, Ethiopia and Egypt have highly regulated currency controls, which in turn causes low USD liquidity and sometimes volatile FX - making cross-border payments difficult
- in Sierra Leone, Liberia and Iraq, technology is more limited, which makes
 Treasury operations challenging from a payments and controls perspective
- Russia and Tanzania also have regulations on cross-border payments, with extensive supporting documentation requirements.

Q. And what are the particular challenges that arise when trying to manage cash in such markets?

When I joined three years ago, there were a number of challenges that I faced:

- the organisation was operating with close to 100 bank branches with businesses manually tracking balances
- some banks that were being used locally had poor cash management capabilities. For example, many relied on paper-based instruments and lacked the technology one might expect to see in other parts of the world. As a result:
 - moving cash around was expensive as it was manual and settlement times were often a minimum of two days
 - real-time visibility was also challenging, due to the lack of reporting and sheer number of banks, so the treasury operations were not efficient.

Q.These certainly sound like challenging markets: how did you address them?

We were able to make some specific changes:

- firstly, we spent six months doing a global bank review and taking the time to select the right bank for each country from a digital capability perspective
- we chose banks in all countries with strong SWIFT capabilities. Alongside our Treasury Management System (TMS) implementation this meant we could get intraday visibility of cash balances
- by being directly connected to SWIFT, we could also reduce the reliance on manual transfers and cheques and move to electronic payments across the group. This improved processing times and reduced costs
- ultimately were also able to vastly reduce the number of banks we were using, which streamlines operations and improves controls
- from a cash collection perspective, we have rolled out solutions such as mobile money and e-wallet collections, to move away from cash and cheque. This reduces the clearing time, while also reducing the fraud risk.

However, in challenging markets there is always a compromise:

- for example, our objective was to have XML payment formats, intraday statements and a two-bank model in each country. However, in reality we have had to settle for MT940s and MT101 payments with some banks, due to capability and cost
- also, as some banking infrastructures are less reliable, particularly at month ends/quarter ends, we often have three banks per country and up to five banks where USD liquidity is tight. By comparison, in Europe you can often get away with one primary bank and a back-up bank.

Q. What role does technology play?

Technology has definitely been important in improving cash management, but it is not the only factor.

We centralise third-party payments as much as possible by using a procurement centre to purchase at group level. This enables us to streamline payments in terms of timings and negotiate better terms due to the size and volume.

The TMS implementation really helped to get central visibility of cash, but more importantly it reduced the number of banks we use, which has helped us to become more efficient. With fewer banks collecting cash, the cash is naturally more centralised - helping with repatriation and quickly repaying debt.

We do have significant levels of intercompany payments as our head office in the UAE purchases equipment from Caterpillar and sells them internally to various subsidiaries. As these are invoice-driven transactions, we can settle cross-border transactions quite efficiently via our TMS.

Q. What impact have the various initiatives you've undertaken had on the business?

The treasury transformation has had a huge positive impact on the business:

- our operations are much more efficient allowing us to concentrate on more strategic/value-add tasks
- it has enabled us to begin centralising a lot of processes
- the initiatives have helped us reduce our finance costs by reducing bank pricing and paying down debt
- we have improved working capital by having more visibility of the cash cycle, which has enabled us to be more proactive.

Q. What do you plan to do next?

We are currently rolling out a Shared Service Centre which will bring further efficiencies in our cash cycle.

Additionally, we have seen banks in many of our markets starting to introduce more technologies, particularly in East Africa which will enable us to further digitalise our processes.

Petty cash usage is also a big focus and rolling out p-card programmes will reduce the reliance on cash.

Lastly, as we can now track all transactions in the TMS, we are now building better data for forecasting and may look at machine learning to support this. IT has also started implementing API technology particularly designed to improve the invoicing cycle and overall controls.

Risk management of derivatives

About Drax: Drax Group is a UK-based renewable energy company engaged in renewable power generation, the production of sustainable biomass and the sale of renewable electricity to businesses.

Drax also operates a global bioenergy supply business with manufacturing facilities at 13 sites in the United States and Canada, servicing customers in Europe and Asia.

A successful derivative policy and hedging strategy is underpinned by a well-structured holistic risk management approach embedded in a clear understanding of the risk appetite of the business – and importantly the risks it 'accepts' and those that it cannot tolerate (e.g. those that are 'unacceptable').

At Drax, we take a proactive approach to our derivatives portfolio and manage the group's risks holistically, with an approach that balances spot FX risk, forward-rate risk, credit risk and overall correlations.

Governance

Our risk management framework is supported by a three lines of defence governance model, managed by experienced derivative risk managers, supported by middle and back-office functions, accountable to independent committees and subject to review by internal and external audit. We have also signed up to the FX Global Code of Conduct, which promotes best practice for all FX market participants in a way that is tailored and proportionate to the nature of their engagement and the size and complexity of their activities. Our risk parameters reference the code which can act as a valuable control framework for any corporate.

Hedging approach

A strong governance framework and a substantial foundation of core hedging enables the team to focus on portfolio optimisation and risk adjusted value. We have a proactive and flexible policy that manages the portfolio as a whole by focussing on three main headline risks:

- 1. Our main risk is familiar to many FX spot risk. In our case, this means protecting against any sterling weakness.
- 2. As our exposure is long-term in nature, we are also significantly exposed to interest-rate differentials (forward curve). We have worked with our banks to set up innovative new products that enable us to capture this value, where the market allows, and hedge the risk independently of spot for our future exposure. This can be particularly beneficial as the spot and long-term forward dynamic are typically negatively correlated.
- 3. We seek to address the effect of sterling appreciation (rather than depreciation) on access to credit. We call this the ability to hedge or credit hedging.

Whilst Drax has a strong crossover credit, it has a very large and long-dated FX portfolio – meaning that, like many corporates, there is a need to proactively consider how we approach and secure credit. This has been particularly relevant

Lisa Dukes

Director of Corporate Finance & Derivatives, Drax

recently when hedging in a weaker sterling environment. For example, when GBP strengthens and existing trades move out of the money, they will become significantly more credit-intensive. Therefore, at the point where there may be pressure to do more hedging or even accelerate the hedge, credit lines may be squeezed or even closed.

As a result, we manage this risk separately and may use derivatives to cap the credit-line exposures. These derivatives do have the benefit of providing participation in favourable movements to the portfolio.

Execution

As you would expect, we study market events very closely and take a considered risk-based approach to managing our portfolio. We work proactively with banks as our extended 'eyes and ears' to the market and have a transparent dialogue with our banking group – enabling us to get the right balance between risk protection and participation or outperformance.

More generally we manage the 'hedge book' as an overall portfolio and use the most appropriate instruments for the market conditions factoring in event risk or volatility at the portfolio level rather than an individual hedge level. We use rolling sold optionality as a core pillar to our portfolio approach, tailored through a combination of vanilla and more tailored structured products depending on whether we are:

- keen to lock in market levels (e.g. an imminent closing on M&A)
- indifferent to the exact timing of the hedge or focussing on increasing levels of protection (e.g. longer dated exposure), or
- balancing the overall portfolio (e.g. participation when less keen to lock in at current market rates over the longer term).

We consider both the tenor of our existing hedges and inherent market volatility as an opportunity to optimise the portfolio and capture risk-adjusted benefit.

Beyond FX

We have extended our philosophy and approach to holistic portfolio risk management into other financial derivatives, including inflation and interest rates – and have introduced new products with similar success.

Having a tailored, innovative approach to derivatives not only supports but can enable enhanced outcomes across the corporate finance spectrum, such as M&A, pension liability management, capital markets and more. The key success factor is having a firm foundation and a good understanding of the business today and more importantly of the strategy for the future, to then spend time tailoring and structuring to enable or support that strategy by materially adding to risk-adjusted value.

Some thoughts on sustainability

Sustainability is a natural extension of what we do as a business. Innovating to create positive, sustainability improvements is at the heart of what we do and is in line with what our shareholders and other stakeholders want to see from Drax.

The treasury sustainability KPIs are aligned with our internal behaviours and are designed to promote similar values with our stakeholders with whom we aim to

work on a long-term basis. A natural extension to the work we have undertaken in introducing an environmental, social and governance (ESG) focus to our corporate finance spectrum was to introduce the methodology into our cross-derivative portfolio by extending the reach of our existing established treasury sustainability KPIs.

Our focus on sustainability began in 2019, with our ESG term loan. Since then, we have extended our sustainability metrics to working capital through an ESG deferred letter of credit (DLC) programme, our 2020 ESG revolving credit facility and more recently a Canadian dollar ESG term loan.

Our ESG commercial DLC structure is an example of the way we aim to solve specific, and perhaps otherwise uncatered for, risk, while also incentivising the parties to meet sustainability objectives.

The DLC solution helped us to normalise the unusual and somewhat challenging working capital cycle linked to the supply of sustainable wood-pellets (biomass) used at our Yorkshire plant, enabling Drax to satisfy payment obligations through the issuance of a DLC rather than cash. Importantly this delivered our goals without impacting the suppliers in the supply chain, which is still a relatively immature industry. The goal was to balance competing stakeholder requirements and maximise the commercial outcome for all on a continuing basis, to increase working capital efficiency through normalising the unusual payment terms, while incentivising the parties to focus on wider ESG.



Is a TMS right for you?

Having a best-in-class treasury function is as important as ever, especially as the role of treasury continues to evolve to become a value-adding service centre. Incorporating a digital treasury function allows your team to focus on critical tasks with less distraction, providing strategic insights for your organisation and enhancing controls. As you look to start incorporating automation to eliminate errors and streamline operations, the first place to start is identifying whether a Treasury Management System (TMS) would be beneficial. For many organisations, there are four main considerations to keep in mind before selecting the ideal solution.

Chris SchutteManager, Actualize

1. Differentiating SaaS vs on-premise systems

Depending on the organisational requirements, companies must compare whether software as a service (SaaS) or an on-premise solution makes the most sense for their existing processes. With remote and hybrid working environments becoming more prevalent, having access to SaaS allows for more flexibility. Compared to an on-premise solution, SaaS solutions lower capital expenditure by reducing resource and maintenance costs, are generally more reliable over time, given that the system can be seamlessly upgraded, and focus more on core business versus systems upgrades and maintenance. The disadvantages of such platforms depend on the business involved and could include compliance issues, software integration headaches, lack of flexibility/customisation and data security.

As for on-premise systems, while these may allow for more seamless integration with legacy Enterprise Resource Planning systems (ERPs), their local installation may not be suited for dynamic working environments – leading many companies to opt for SaaS-based solutions.

2. Addressing the need for a TMS

A TMS can address a wide variety of needs and can often be customised to create a solution that maximises efficiency for your organisation. To ensure the ideal solution is created, it is important to make a check list of the current processes and challenges you are facing. Depending on the must-haves for your organisation, various modules can assist in mitigating the risk that comes with:

- multiple bank relationships or bank accounts
- lack of cash visibility
- multiple ERP systems and different versions with a need to standardise
- trading platforms without proper integrations
- international growth
- outdated treasury technology or no existing system
- decentralised and non-standard payment workflows and controls
- debt and investments tracked manually in Excel
- lack of visibility of FX exposures
- new regulation and compliance requirements
- need for a risk management programme.

Once you pinpoint what you would like to address with a TMS, you can make an informed decision as to whether its common benefits would assist and streamline your treasury function.

3. Understanding the benefits of a TMS

Understanding how your organisation is using these systems can help determine whether a TMS would help improve your processes, as well as create a template of desired outcomes. Across multiple platforms, common benefits of treasury/enterprise engagement include:

- reducing manual processing
- automating repetitive tasks
- integrating with other financial systems
- reducing risk exposure due to timing and input errors
- improving the ability to strengthen financial positions
- increasing effectiveness of financial decisions
- standardising processes and controls
- centralising audit trails
- creating a single, reliable dashboard for treasury data.

If these benefits make sense for your treasury function, the last consideration is how the TMS would interact with your enterprise.

4. Mapping enterprise engagement

As part of the implementation of a new TMS, creating a system architecture design allows for the enterprise as a whole to have a clear roadmap. This design serves as a high-level view of all the integration points coming in and out of the TMS, details the functionality and scope of the TMS, and identifies any third-party dependencies. If the plan is to deploy the functionality in phases, stakeholders should know which items will be implemented in each phase. For a successful implementation, it is important to identify changes in processes and how they impact individuals' daily functions, as well as any potential changes in ownership. The proposed changes must be well documented, include rational and perceived benefits and be approved by the heads of each department.

With increases in remote and hybrid working environments, digital transformation is key to thriving in the next decade. Emerging technologies are changing how we do business. For treasury departments, the use of a TMS will increase overall visibility for better-informed decisions, while mitigating the risk and loss of efficiency that comes with manual tasks.

How does technology support treasury?

For treasurers, the cornerstone of support from a technology perspective comes in the form of the Treasury Management System (TMS). This is the core to managing large volumes of transactions and data and plays a critical role in integrating other applications and systems, such as SWIFT or Enterprise Resource Planning systems (ERPs). Technology has allowed the treasury function to become more efficient in its operations and day-to-day processes – giving treasurers more time to analyse and strategise with a greater understanding of the risks being managed and the data that underlies decisions. With the advancement of software and hardware, this applies to corporations of all sizes. There are TMS providers with software that meets the most basic needs to the most complex, but all have one thing in common: core delivery and integration capabilities.

Chris DibbenDirector, Global Cash Management, GSK

Leveraging technology

Technology facilitates efficient and accurate data communication with external stakeholders, which is key to all parts of treasury – particularly the front and back offices. For many years, technology has made trade executions with banks more efficient – primarily in FX, but also with other instruments (for example, request for quotes to multiple banks to allow price tensioning). However, limitations have often applied on the size of trades that can be made in this way. This has also been addressed by technology, with the creation of algorithmic trading ('Algos'). The primary benefit of Algos is to reduce the spread on trades in the market by not passing risk to the bank, but instead participating more directly in the market and remaining passive as a market maker if desired. Technology further allows control of execution to monitor and stop Algos in progress and provide transparency to the pricing achieved on each tranche, which allows for the granular analysis of the execution cost.

For back-office operations, treasurers can enhance their straight-through-processing by using automated electronic confirmations that are triggered from the TMS – either directly to a bank or via a third-party provider – and can have further agreements to electronically confirm daily netting values. All this leads to more efficient and accurate ways of working. Electronic payments made directly from your TMS or ERP system continue to ensure timely settlements, minimise manual interventions and reduce the risk of error. When combined with the everimproving levels of standardisation in payment formats, the introduction of new accounts and currencies is being made simpler than ever.

With end-of-day statements and intraday statements both being fed into a TMS – either via SWIFT or a host-to-host solution – a treasury function is able to track balances during the course of the day to maximise deposits or loan drawdowns and enhance interest outcomes. The ability to configure the cash management structures within a TMS not only gives day-to-day visibility, but also allows further analysis compared to forecasts provided from within the business – and can help to identify cash management opportunities and seasonal trends.

Within an organisation, technology can support in establishing an in-house bank for efficient cash management and consolidation of exposures. By having an integrated ERP system and TMS, a treasury function can facilitate the settlement of a high volume of intercompany invoices through both cashless and physical netting as frequently as desired. When combined with software to ensure matching of intercompany invoices, this can be performed each day and lead to the

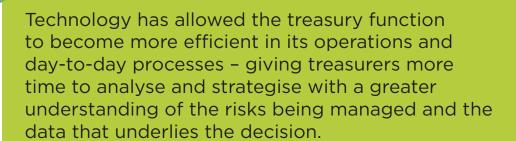
management of FX exposures on a daily basis. Through pulling forecast data into a TMS, the treasury function can look to manage future forecast FX and interest rate risk and perform the necessary valuations and assessments to meet the accounting standards in place - thereby minimising the P&L and cashflow risk to a company.

Work remains

The benefits of how technology supports treasury are very apparent. However, by enabling relatively small treasury teams to support large volumes of transactions, it does create points of risk around outages. So, in a world where everything is interconnected, it is critical for treasury teams to continue to work closely with their technology colleagues to ensure a robust and effective business continuity plan is in place, with any extreme scenarios factored into the strategy.

As with anything in the world of technology, developments continue – and solutions are becoming more readily available. For example, APIs combined with virtual accounts or data-enrichment tools can allow same-day collections matching within ERPs to allow immediate shipments and more efficient working capital management for customers. In the long-term, the accessibility of SWIFT gpi tracking can also help eliminate the provision of payment proofs, which create considerable manual effort for treasury teams and banks.

Ultimately, it is important to remember that technology supports treasury - and can facilitate change and efficiency. For it to be a success, however, it needs to be combined with the right underlying treasury principles around risk and cash management, business integration and banking partners.



Chris Dibben

Treasury and the potential perils of e-commerce

In recent years, consumers have increasingly migrated their shopping habits online – a trend that has been accelerated by the COVID-19 pandemic. Against this backdrop, having an effective e-commerce presence has become a top priority for corporates as they look to retain customers and expand their business. Such an overhaul, however, requires careful thought. Corporates need to ensure that challenges are overcome and that their strategy works end-to-end. How can this be achieved?

Raphael Jansa Cash Management Structuring at Deutsche Bank

TMS/ERP integration is crucial

Typically, the implementation of an online sales platform – regardless of whether it is a direct-to-consumer (D2C) or business-to-business model (B2B) – focuses on the front-end solution. The result is a highly intuitive user experience that can drive sales and maximise profits. Often, however, this focus means that the treasury department as well as the implications for back-end applications are omitted from the decision-making process. This can prove to be a costly mistake.

Building up an e-commerce presence should be viewed as more than simply adding 'another distribution channel'. It brings a plethora of new challenges and involves multiple new stakeholders, which, on the back end, translates into more data feeds – something that only increases once activity begins to scale up. As a result, companies that embark on their e-commerce journey without an adequate integration with back-office applications, such as their Treasury Management System (TMS) and Enterprise Resource Planning system (ERP), face major obstacles

The diverse e-commerce ecosystem

The huge variety of players involved in the e-commerce ecosystem can create a host of demands on treasury departments – especially for those that are either new to e-commerce or are moving from a B2B to a D2C model. Among the players in this space are:

- Payment Service Providers (PSPs): payment via cheque, ACH or wire transfer within 30-90 days of receiving an invoice is commonplace in the B2B world. With a D2C model this changes dramatically. Payments are made instantly, whether via an e-wallet, credit card or an account-to-account transaction. Access to these methods is provided by a PSP that must link seamlessly with your TMS and ERP system set-up
- third-party marketplaces: depending on the industry and customer reach, you might choose to run a dual marketplace strategy; for example, by adding a third-party marketplace (e.g. Alibaba) to your own marketplace, or vice versa
- shipping & logistics: while e-commerce can significantly expand market reach, existing logistics and shipping partners may not cater to all locations
- social media: an omni-channel sales strategy often sits alongside an omnichannel marketing strategy. Having real-time insight into stock levels can support the business in running ad-hoc campaigns (e.g. those that are seasonality-driven) to clear out surpluses. To achieve this, you might also need new business intelligence feeds.

More data, new complexities

Given the number of players involved, it is clear that without proper integration, companies looking to implement an e-commerce platform will face several obstacles, including incorrect and error-prone data entry, regularly running out of stock and delaying fulfilment. Any resulting poor customer experiences will be detrimental to the business. Among the key points of friction are:

- centralised business data: it's a fact of life that information flows both ways. For example, new orders may migrate from the e-commerce platform to the ERP system in real-time, while invoicing and shipping data only migrate in a batch at the end of day. The execution of this must, therefore, be carefully planned
- reconciliation of payments: manual entry of data is cumbersome and increases the possibility for errors – especially in e-commerce's low-value, high-volume payment environment
- refund management: refund management can quickly become a key consideration when operating in the e-commerce world - especially when operating a DTC model. Yet, this basic process cannot be accurately viewed end-to-end unless the data is centralised. This can cause headaches when it comes to managing customer feedback, refunds and inventory
- review data analysis: decision-making is faulty if data is not delivered in realtime in a central location
- inventory data synchronisation: control through automatic synchronisation of inventory to avoid allowing sales of out-of-stock items to be processed is a must. Without it inventory management and pricing are jeopardised, causing operational inefficiencies, data inaccuracies and, worst of all, customer confusion. Connectivity between the ERP system and the e-commerce platform will also ensure marketing efforts are more targeted and successful
- tax considerations: while VAT is long familiar to globally operating businesses, for those running an online marketplace it may come with new dimensions as VAT obligations may apply in several geographies. In recent months, regulators in the EU and the UK have ruled that ensuring these obligations are paid is very much the duty of the online marketplace and, in certain circumstances, it can even be held directly responsible for unpaid taxes. As a result, corporates are increasingly using VAT automation software that links directly into the ERP system and ensures tax compliance.

A best-practice strategy

In an ideal world, the entire chain – from the online sales channel to the ERP system/TMS – would be fully automated. Unfortunately, the cold reality is that in many cases not even a corporate's ERP system and TMS are fully integrated. With IT resources still scarce in corporate treasury divisions, it makes sense to prioritise the process steps that are central for automation. These usually include the steps that have been identified as manual, intensive and complex – and therefore costly to operations if ignored. For instance, real-time, automated data alignment for inventory often rank highly on a treasurer's 'must have' list.



Banks can also play an important role in this journey. As direct connectivity into a corporate's ERP system/TMS is the name of today's game, banks are increasingly providing their services directly to the ERP system/TMS feed. For example, a fully integrated banking service might comprise in-house and third-party services, with multiple forms of payments facilitated, as well as value-add services provided, such as risk management, data insights and reporting, all feeding through a single gateway into the ERP system/TMS. From a corporate perspective this would signify a dramatic move up the value chain for banks and their banking services.



The road to a data-driven treasury

As digitalisation advances, a vast amount of data is being generated - and this represents a key opportunity for the treasury function. If treasurers can effectively sift through this 'data lake', they stand to unlock smarter insights and enable faster, streamlined decision-making. But placing data at the heart of a treasury department is not something that happens overnight - and the journey is fraught with challenges. So how exactly can treasurers incorporate a 'best practice' data strategy?

Claudia Villasis-Wallraff Head of Cash Management Structuring APAC at Deutsche Bank

The vision

Traditionally, when a treasurer wanted to maintain visibility over their available cash positions, they would often simply check their account balances, which would be correct as of the end of the previous working day. Since the proliferation of real-time payments – and as global companies have increasingly worked across regions with different closing times – this visibility is no longer fit for purpose. In response, real-time visibility of cash balances, as well as expected outgoings, has become a central feature of an efficient treasury operation. To achieve this goal, treasurers should ensure that all information – across the entire value chain – is automatically collated and analysed, allowing them to seamlessly manage operational KPIs, resolve disruptions and perfect fulfilment.

Unfortunately, getting the necessary data from the various Treasury Management Systems (TMS), Enterprise Resource Planning systems (ERPs), bank portals and data service providers – in both its structured and unstructured form – in the right place and in a usable format is harder than it might seem.

Breaking down the corporate silos

One of the biggest challenges for treasurers looking to integrate data into their day-to-day work is the lack of collaboration across departments. Often, the treasury, finance and procurement teams act in isolation from each other – meaning that their forecasts and plans for the year rarely match up. This becomes a problem when treasurers are looking to identify cash balances across the whole business – an issue that was brought into sharp focus by the COVID-19 pandemic. These corporate silos – and the data silos they create – need to be broken down for the treasury department to respond effectively to today's demands. It begins with better collaboration and transparency with the other key parts of their business.

Data quality

Underpinning the effectiveness of the treasury function's data strategy is the quality of the data available; in a recent Economist Impact survey – titled A Quantum Leap: Building a Data Driven Treasury – four in 10 respondents agreed that they are very concerned about the poor quality of financial and business data in their organisations. For example, in some companies, the complexity of the IT set-up – particularly the lack of a single SAP instance – can interfere with the information that the treasurer is trying to map. When data from different internal and external systems is pooled, it is often standardised so that various business departments can analyse it. For treasury, such standardisation runs counter to the data-driven approach, as it conceals important nuances in the data. In this sense, while treasurers recognise that data is the new 'gold', they also realise that mining it will take much effort.

Another consideration is that many unstructured data sources, such as the weather, social media and current events, are not necessarily compatible with

 ${\tt https://corporates.db.com/files/documents/a-quantum-leap-building-a-data-driven-treasury.pdf?language_id=1}$

existing data models. But they may, nonetheless, still be useful. For example, whether it is sunny or not can correlate with seasonal sales – and factoring in external data, such as weather reports, can help to improve cash forecasting. As a result, treasurers are creating repositories of unstructured data, which is becoming essential for a more nuanced analysis.

Embedding the right technologies

With such a diverse store of data across hundreds of applications, ensuring everyone has access to this information – and can use this to make informed decisions anytime, anywhere – is a challenge. One reason for this is that the technologies used by treasurers are still catching up with the requirements for a data-driven treasury. TMS providers might have solved and digitalised a number of single treasury processes, but they are no longer the tool of choice for data analytics. Instead, treasurers are using other tools, such as Excel and Tableau, to not only bring the data together, but to also run analytics on it.

The corporate checklist

As corporates look to put data at the heart of their operations, there are several questions they should ask themselves:

- as an organisation, are we working in a transparent, collaborative way to ensure all data is available for the treasury function?
- are my treasury processes and technologies up to speed with the new real-time world?
- is my data of sufficient quality to provide effective, reliable insights?
- am I able to aggregate and visualise unstructured data to improve my analysis?

Treasurers should ensure that all information – across the entire value chain – is automatically collated and analysed, allowing them to seamlessly manage operational KPIs, resolve disruptions and perfect fulfilment

Claudia Villasis-Wallraff

A vison of treasury in 2022

In times of high inflation, rising interest rates, increasing supply chain backlogs, rising oil and energy prices, evolving tax policy, and the ongoing threat of economic shutdowns/drag-downs from the re-emerging COVID-19 pandemic, treasurers find themselves in a unique position. Given that they operate at the intersection of the corporation and its operating business by nature of their funding mandate, they are well placed to address these issues.

Treasuries must have access to and visibility of data and information flows for making capital, liquidity and funding decisions to support operations and business development. Treasuries must also establish longer term funding plans that take into consideration major business, economic, and market volatility factors that could individually or collectively impact the health of the company.

Treasurers accomplish this by leveraging technology to produce a strategic financing plan. This harnesses enterprise-wide data, predictive analytics, and dynamic forecast capabilities to highlight the company's most critical business factors across a range of scenarios. This approach can be replicated to create an enterprise-wide corporate strategy that will address prevailing market challenges.

This of course is not independent of other important governmental, regulatory, and policy influences related impacts, such as Brexit, LIBOR reform, cross-border mobility, and protectionism of Big Tech, which will all likely have a direct impact on global corporations.

Establishing an analytical framework to identify strategic opportunities

Approaching the task of creating a dynamic forecast to address the myriad of market and industry factors can be a daunting prospect. But it is not as hard as it might seem. By utilising a functional analytical process that uses the proper technology, treasurers can produce a business intelligence base of 'probable market scenarios', which can in turn be used to inform strategic business decisions. The scenarios do not need to be overly complex – requiring weeks or months of data and analytic preparation. Instead, they need to be practical and able to replicate any vulnerabilities within the company's business profile.

Evaluating the impact of scenarios on future business performance requires a dynamic approach that considers the current and future business profile of the company to the 'market possibilities'. For example, imagine a scenario in which a US-based company had a sizeable exposure to foreign currency in the Eurodollar. If the USD were to appreciate versus the Euro, the company would have a negative revenue impact to sales. The appreciation of the USD could suggest an overheated market in the US where fiscal policy is on course to raise interest rates, offsetting inflation and causing the cost of debt to increase. In turn, this will put pressure on earnings from both sides of the P&L impacting credit, debt-covenant ratios, earnings per share and cost of goods sold if the USD is appreciating across global market currencies. The chain reactions of such factors are important to capture in order to produce insightful analysis.

Leveraging technology for a sustainable process

Core to establishing a repeatable process for identifying and monitoring strategic opportunities is leveraging technology to aggregate, process, and analyse data. But data alone will not provide the insights into business opportunities. Rather, a comprehensive modelling process is necessary to evaluate today's balance sheet and evolve that balance sheet through time – producing cashflows of the P&L driven by real-world business assumptions. The art of the process lies in generating scenario analysis that informs business executives of opportunities and risks created by market volatility, which impact cashflow, liquidity, and capital to support business growth.

Paul DeCrane Zanders Advisory



Construction of a repeatable process can be more difficult than it sounds. We have yet to see an enterprise-wide modelling platform that can pull data from all corners of an enterprise, produce a market model, and generate a dynamic cash forecast that contemplates the imprecise timing of cashflows. Enterprise resource planning systems (ERPs) are more backward-looking than forward-looking and are not designed to stratify product and service data elements that activate the capability to run scenario analysis. Equally, forecasting point solutions often analyse transactional data from the bottom up by portfolio, but not across asset and liability classes. As a result, we are left to design a process that consists of an architecture (or combination) of technologies or systems that stratify data into manageable cohorts, which can then be dynamically linked to response functions that are driven by scenarios generated using a 'real world' and 'market consistent' model.

The importance of technology controls

Engineering proper controls into the technology, and around the analytical process, is critical to analytical integrity and producing accurate business intelligence:

- Data should be automatically validated and normalised through an ETL (extract transform load) process. Rules can reconcile the completeness of data and the product/account levels and validate data characteristics (such as terms and conditions of assets, liabilities, and equity positions).
- 2. Controls must be applied to scenario generation to determine that they are 'real world' and consistent with market changes ('market consistent'). Financial market models without controls and left to their own devices will often unrealistically extrapolate exposures.
- Response model assumptions must be consistently calibrated with the market to fit with the customer profile, producer and supplier pricing assumptions, market conditions (including capital markets) and competition.
- **4.** Assumptions and scenarios must be consistently evaluated and recalibrated to match the current profile of the company and market conditions.

Treasurers are in a unique position to fill the corporate strategy void by providing enterprise-wide strategic analysis. Treasurers sit at the centre of corporate and business transactions via the funding and investment process. Closing the gap means translating transactional values into business performance by nature of a simple but robust analytical process – one that is able to leverage technology and big data to provide a dynamic forecast.

Creating a culture of professional (and personal) development

The ACT's Business of treasury research has shown that treasurers feel that the biggest barrier to their career progression is the lack of strong skills in communication, relationship-building and strategic influencing. This becomes more of a challenge the more senior a treasurer becomes – a theme that is apparent all around the globe.

As such, nothing can be more important than taking care of one's own personal development, as well as that of those around us. However, we cannot even get started on the career ladder if we don't have the strong bedrock of technical skills that is required for all treasurers.

The ACT's qualifications aim to cover all areas of technical knowledge pertinent to the treasury role, ensuring that the qualified treasurer can move from role to role or company to company with the confidence that they understand all areas of treasury – not just those in which they have recently worked. In addition, the qualifications, which also cover other business and behavioural skills that are important to the treasury role, indicates flexibility and breadth of knowledge to prospective employers.

In terms of good or best practices in personal and professional development (and these two are of course very much related), it's worth asking yourself a number of questions – almost by way of a checklist. What I'd like to suggest is the following:

- do I talk to my team members (reportables) at least twice a year about their development needs, both personal and professional?
- do I talk to my boss at least twice a year about my own development needs? And is at least one of my objectives a personal development objective?
- do I take action on both of the above, where applicable?
- how many of my team are ACT-qualified, and is this at an appropriate level?
- have I sought out unbiased but constructive feedback for myself and my team?
- do I feel I am getting the best out of myself, and being the best that I could be? How about the same question for my reportables?
- are there gaps in my knowledge/the knowledge of my team, which could catch us out?
- do I feel that my messages/those of my team get through successfully to senior management?
- are we a go-to department in the organisation?
- do I fully understand my organisation's business model?
- do I have a healthy relationship with my peers in other departments?
- do I encourage cross-functional collaboration and meetings/informationsharing?
- how do I like to learn?
- how do my team members like to learn?
- how full an induction do new members to the team receive, in terms of introduction to both the treasury department and the rest of the organisation?

Caroline Stockmann

Chief Executive, Association of Corporate Treasurers

- do I feel I am progressing and developing in my role?
- do team members feel they are progressing and developing?
- have I/my team had any bad experiences recently? What are the learnings?
- do I understand all the different ways I/my team can learn with the ACT (qualifications - treasury journey; qualifications - cash journey; public training courses on treasury or cash; eLearning - seven online modules based on case study; webinars; strategic influencing podcasts; strategic leadership seminars)?
- have I explored the ACT Career Hub, and seen all the wealth of information stored there, with many articles around leadership, managerial skills, personal management, wellbeing etc?
- am I familiar with the ACT Competency Framework?

On this last point, the overview of the Competency Framework can be found in an appendix to this guide, and the detail beneath it is available on the ACT website. In short: the framework sets out the behavioural, business and technical skills required of the treasury profession, and describes them at various levels of competency, i.e. tactical, operational, managerial, then strategic. We also set out example job roles and at what level they generally operate. Our qualifications are similarly identified, so you can see what role requires which competencies and at what level, and which qualification you need to get you there. The framework was developed by professional treasurers and employers, and we hope you find it very comprehensive.

And a note on the 'behavioural' competencies: many people suffer from the false impression that you are born with these skills, i.e. a 'natural', or not; a 'natural leader', a 'natural communicator' and a 'natural negotiator', for example. These skills as well as any others can be learnt. Some people will have a more natural aptitude, as with any skill, but practice is the key to learning here – as we can in fact learn anything if we put our mind to it, and it's just a matter of repetition and familiarity. In addition, 90% of our thoughts are subconscious, and many of them can undermine us – for instance if we move through life with pre-conceived ideas of how things are (when they may not be). But if we bring such ideas and thoughts into our conscious mind and tackle them there, we are able to adjust our way of thinking into something more positive and robust/factual. So here we're talking about getting rid of conceptions that we cannot be good at certain things. A topic too complex to go into here, but suffice to say we can absolutely train ourselves to become more confident in our abilities, even in those things we might not at first feel we are 'naturals' at, and reach the results we desire in life.



Appendix: the ACT competency framework

Global Treasury Standards

The competency framework defines the treasury skills and capabilities needed by treasury professionals to operate successfully in today's challenging business climate.

treasurers.org/competency framework

Financial management

Financial management is a critical element of treasury's role, whether managing transaction costs, protecting against exchange rate exposure or contributing to cash flow forecasting. Budget monitoring and provision of early warning of adverse trends and variances are core aspects.

Knowledge and information management

Collect, analyse and translate data into information that can be appropriately disseminated to assist with problem solving and decision making across the organisation. Ensure such data is retained and stored in such a way as to provide easy access but always in accordance with the Data Protection Act 1998 and any associated legislation.

Planning and projects

Develop and implement departmental, project or team objectives in order to manage scarce resources and deliver results that are in line with corporate objectives. Problem solving is a key skill.

Commercial drive and organisation

Appreciate own position in and contribution to wider organisation and understand those of other business functions in delivering the organisation's strategic objectives. Optimise opportunities within own area of expertise to deliver efficiencies and drive costs down through effective negotiation with suppliers.

Self management and accountability

Use skills and competencies confidently and effectively to help deliver the organisation's objectives. Understand your core strengths, as well as areas for development. Accept responsibility for own actions, and hold others accountable for theirs.

Influencing skills

Develop mutually beneficial working relationships with internal and external stakeholders, gaining support for ideas and plans of action. Create win-win situations which deliver value to the organisation and the broader treasury community.

Working effectively with others

team to support the strategic direction of the organisation. Achieve team and organisation objectives by getting the best out of others, through active listening, as well as constructive challenge.

Context of treasury

The business context

Treasury should hold a pivotal position within the organisation to add most value and must have a detailed understanding of both the business and the implications of external events on their organisation.

Accounting, tax and regulation

Accounting rules, tax and other legislation or regulation may affect the financial markets accessed by the organisation, the activities undertaken by treasury and how such activities are reported. Regulatory requirements can change frequently so keeping up to date is key.

Ethics and corporate governance

Ethics

Ethical behaviour is a mind-set and underpins all business activity. Treasury professionals need to appreciate why ethics matter, to act ethically at all times and to lead by example.

Compliance and audit

Treasury's activities need to be clearly defined, executed and monitored and this includes the independent review provided by regular audits. Policies and procedures need to be integrated into the organisation's risk management approach. Reporting must be provided for all stakeholders (both internal and external).

BUSINESS SKILLS

BEHAVIOURAL SKILLS

CHARACTER: Traits | Values | Virtues

Risk management

Risk frameworks

In order to explain its approach to risk management, every organisation needs a risk management framework that not only establishes the policies and processes to be followed but also articulates the risk appetite of the organisation. The process of risk management must be structured to enable visibility and support of decision making.

Identify and assess risks

In order to manage risk, first it must be identified, evaluated and prioritised. Strong relationships, clear communication and a straight forward process will enable treasury to work with the business in identifying financial risk – both core treasury (e.g. liquidity, working capital, foreign exchange, counterparty risk) and other financial risks that may fall under treasury's remit (commodities, pensions etc.).

Manage risks

There are a variety of approaches to managing risk: Avoid, Accept, Transfer. Management techniques range from doing nothing, through changing ways of working, to undertaking external transactions that change the nature of the risk (e.g. derivatives). Select and implement the most appropriate response to a particular risk for the organisation, dependent on its risk appetite.

Risk reporting

Stakeholders (both internal and external) need to understand how risk is being managed and whether the approach is effective. Ensure that the most appropriate risk evaluation and reporting methodology for the organisation is selected and implemented; included in this will be mitigations with assigned responsibilities and a feedback loop to report on residual risks, adapt policy and refine procedures.

Corporate financial management

Corporate finance

Corporate finance theory (risk/reward) is applied in practice to evaluate sources and uses of finance. This encompasses everything from capital structure (debt, equity and dividend policy), through major business transformations (e.g. mergers and acquisitions) to individual financing decisions (e.g. whether to buy a particular machine).

Long term funding

The success of the organisation is dependent on access to funds. Identification of the most appropriate sources of funding to achieve the organisation's medium/long term objectives and putting funding solutions (including documentation) in place will ensure that funding is available whenever required.

Investment

Treasury needs to be prepared to handle cash surpluses as well as borrowing requirements. A financial investment strategy (based on security, liquidity and yield) that is consistent both with the needs of the business and with its risk appetite, should be in place as well as methodology to monitor the creditworthiness of investment counterparties.

Intercompany funding

Intercompany funding of subsidiary operations is generally an efficient source of funds for an organisation. It may not be straight forward to implement or manage, as tax, legal and regulatory aspects must all be taken into account especially when setting up intercompany structures such as netting systems, in-house banks etc.

Treasury operations

Treasury operations infrastructure

The treasury function must be set up to support the business to reflect the needs and culture of the organisation. This includes establishing a framework of policies and procedures which enable the treasury to be resilient to external shocks (disaster recovery) and to function effectively; and building strong relationships with the business and financial institutions.

Financial products and markets

A thorough understanding of the various financial markets and related instruments is core to treasury. Familiarity with the intricacies of transacting such products and the risks and benefits they offer the business, as well as the ability to explain products to non-treasury members of the organisation are key.

Technology

The use of technology (increased automation) can improve the accuracy and security of treasury transactions, by delivering solutions to manage payments, disaster recovery etc. The wide range of systems products available need to be thoroughly evaluated to ensure those selected are aligned to the treasury's delegated powers, policies, procedures and audit requirements.

Cash management

Efficient cash management is crucial to the long term success of the organisation. This involves identification and implementation of cash management solutions for day to day funding of operating units and mechanisms for remitting cash across a group.

Liquidity Management

Liquidity management focuses on the organisation's short term need to meet payments as they fall due. This can be achieved through the development of accurate cash flow forecasting solutions, and the management of working capital and external sources of funds to ensure resilience.

Trade finance

Trade finance relates to operational cash flows and specifically to supporting customer and supplier transactions. Trade finance solutions manage the risks which arise with cross border trading. It also covers supply chain finance solutions.

TECHNICAL SKILLS

"The guide covers a lot of ground – and as you flick through the following pages, you will learn about all aspects of treasury, from how to set up your department and how to integrate ESG into your operations, to how data is the key to unlocking a real-time treasury. As you look to adjust your treasury operations to keep pace with the digitalisation of the wider business, we hope this guide acts as a useful companion on your journey."

Ole Matthiessen, Global Head of Cash Management, Deutsche Bank

"Formed of inputs from a variety of sources, we have looked to include case studies and articles that will really give a best practice perspective on a range of topics close to the treasurer's heart. If it meets our aims, this guide should not only provide you with a good read, but also inspire you to think about how you might do things differently in the future."

Caroline Stockmann, Chief Executive, The Association of Corporate Treasurers



