Standard Chartered

INSIGHTS

The Digital Treasurer of the Future

A roadmap for harnessing technology to support the business

Digitisation is not just reshaping the day to day operations of Treasury and the way it interacts with financial markets but, more importantly, it is changing the very core of how businesses interact with their customers, suppliers, and markets. In this paper, we examine how Treasurers need to embrace technology so they can drive a more efficient Treasury function and become a value-added adviser to the business.

Technology Landscape

The falling cost of technology and a shift in attention by technology start-ups and venture capitalists, from consumer to business related opportunities, is driving a massive investment in Fintechs. By some estimates there are more than 25,000 Fintechs across the world vying for a slice of banking and finance related services. Some are focused on supporting enabling technology such as blockchain, big data, or robotic process automation (RPA), which can be applied to a broad range of business processes, whilst others are seeking to disrupt entire markets such as cross-border payments, debt capital raising or trade finance.

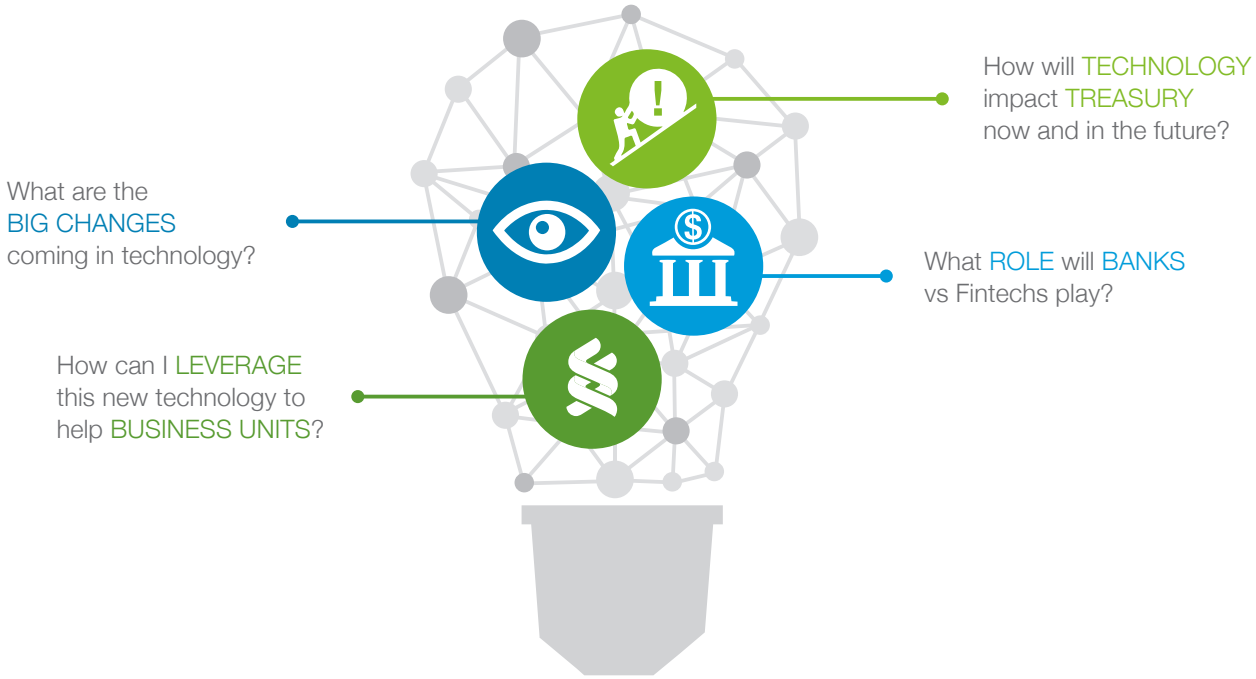
Some of the most common technologies that are relevant to Treasury are presented below. At a macro level, these technologies have two broad applications:

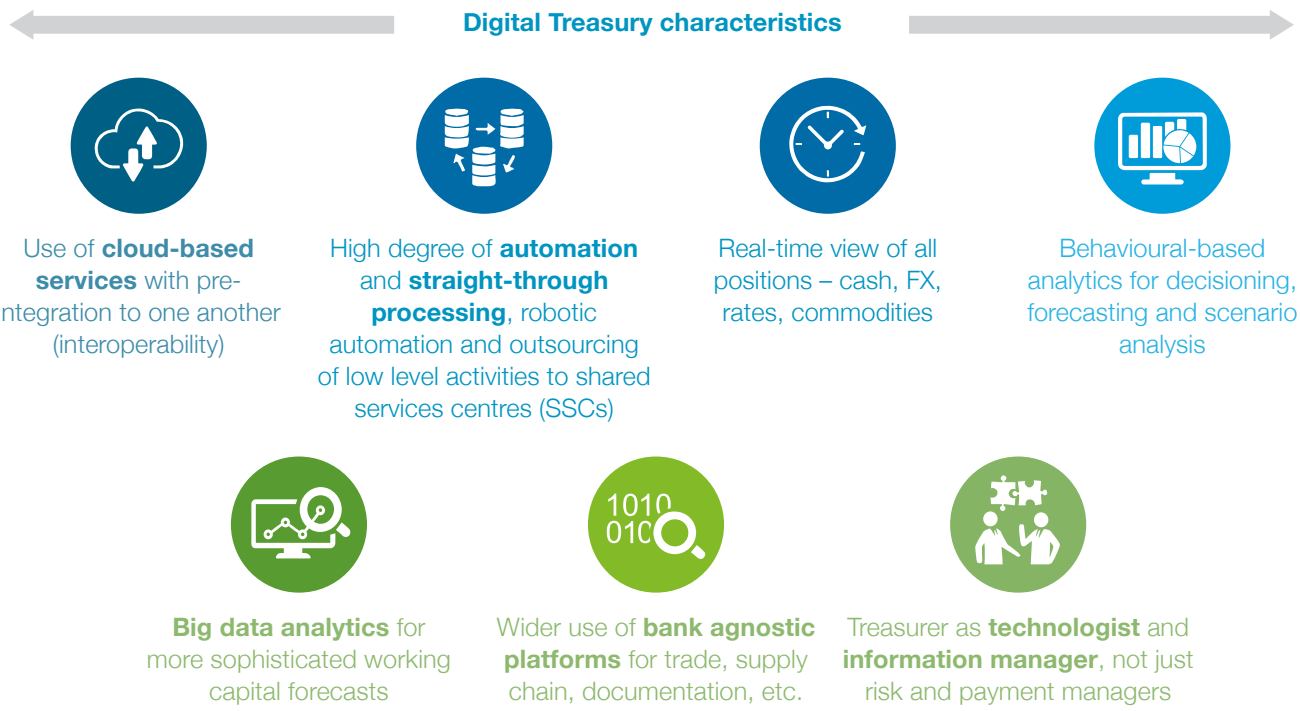
1. As an enabler of more efficient Treasury processes and value added analytical / information services for the business (i.e. the impact of technology from a Treasury Perspective)
2. In supporting the creation of enhanced or entirely new business services and ecosystems for the business itself (i.e. the impact of technology from a Business Perspective)

In the broadest sense, technology will enable both the Treasury and the business to go faster, further or perform better that it has in the past. This points to the transformative impact these technologies are set to have on organisations. This is why it's so critical that Treasurers embrace these changes and become subject matter experts and change agents rather than bystanders in the transformation that will follow.

The Treasurer's Dilemma

For the Treasurer, the fundamental questions are: How does Treasury embrace these technologies whilst continuing to focus on the slew of day to day activities for which it is responsible? How can Treasuries acquire or build the necessary technology related knowledge and skills alongside traditional core Treasury competencies like liquidity and risk management?





Treasury Perspective: Building a more efficient and relevant Treasury

Digitisation has the power to fundamentally reshape the way Treasury operates and the services it can provide to its business partners. These can be grouped roughly into *process optimisation* and *capability enablement*, i.e. development of new capabilities and services.

However, to improve existing processes or build new capabilities there are a core set of foundational technologies that should be on the roadmap of every Treasurer.

These are the technology enablers that will enable Treasury to operate in the digital world of real time transaction processing, big data analytics, and networked financial markets where increasingly services are accessed via market platforms covering almost every area of financial services.

Reshaping Treasury processes

From a process optimisation perspective, there are many examples of processes that could be improved within Treasury including:

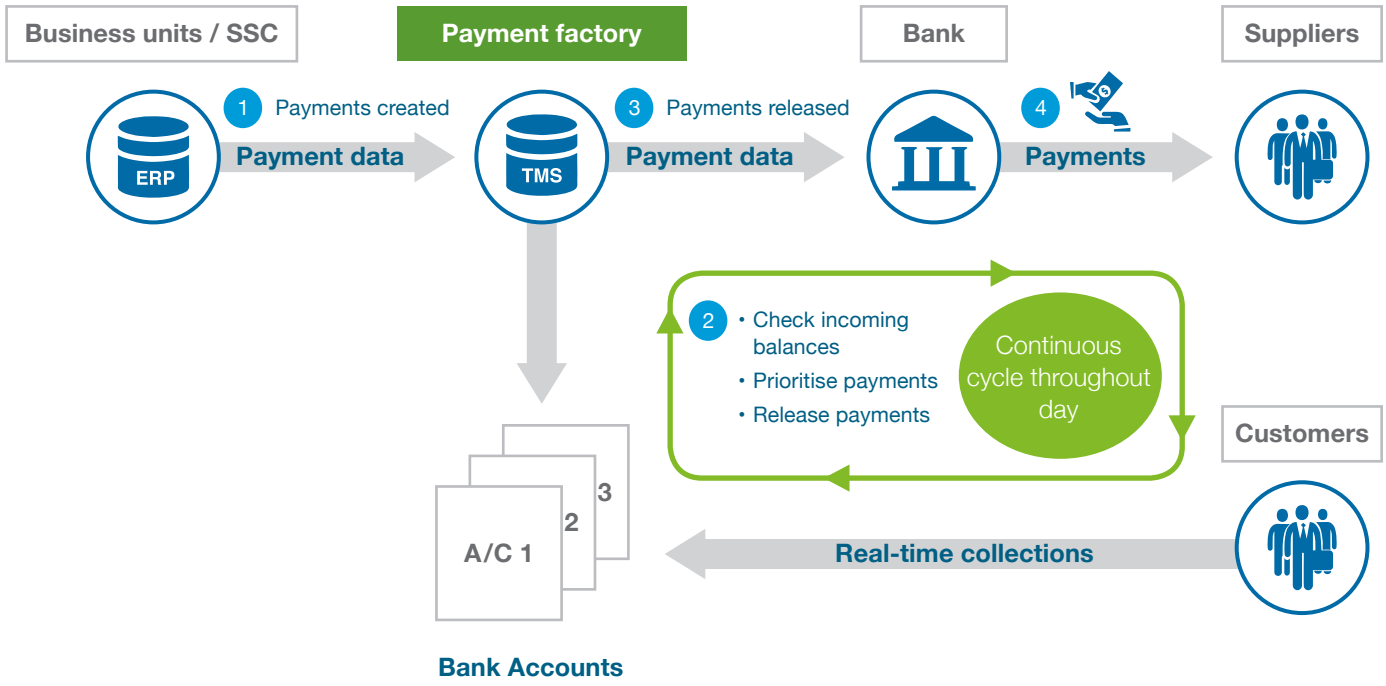
- Automation of the end-to-end FX process by using Robotic Process Automation (RPA) software to aggregate FX hedging requests from business units, initiate a pricing request on an FX trading platform (such as 360T, FXall or Bloomberg's FXGO), execute the trade within defined pricing and trading limits, and manage the confirmation and settlement processes.

- Deployment of RPA for other repetitive processes such as: checking account signatories against HR records; aggregating business unit forecasts; prioritising payments for execution in a payment factory; checking transactional volumes in a bank statement against recorded volumes in an ERP platform or Treasury Management System (TMS) to validate bank fees; monitoring market trends and initiating an alert or execution request when a market trigger level is reached, etc.

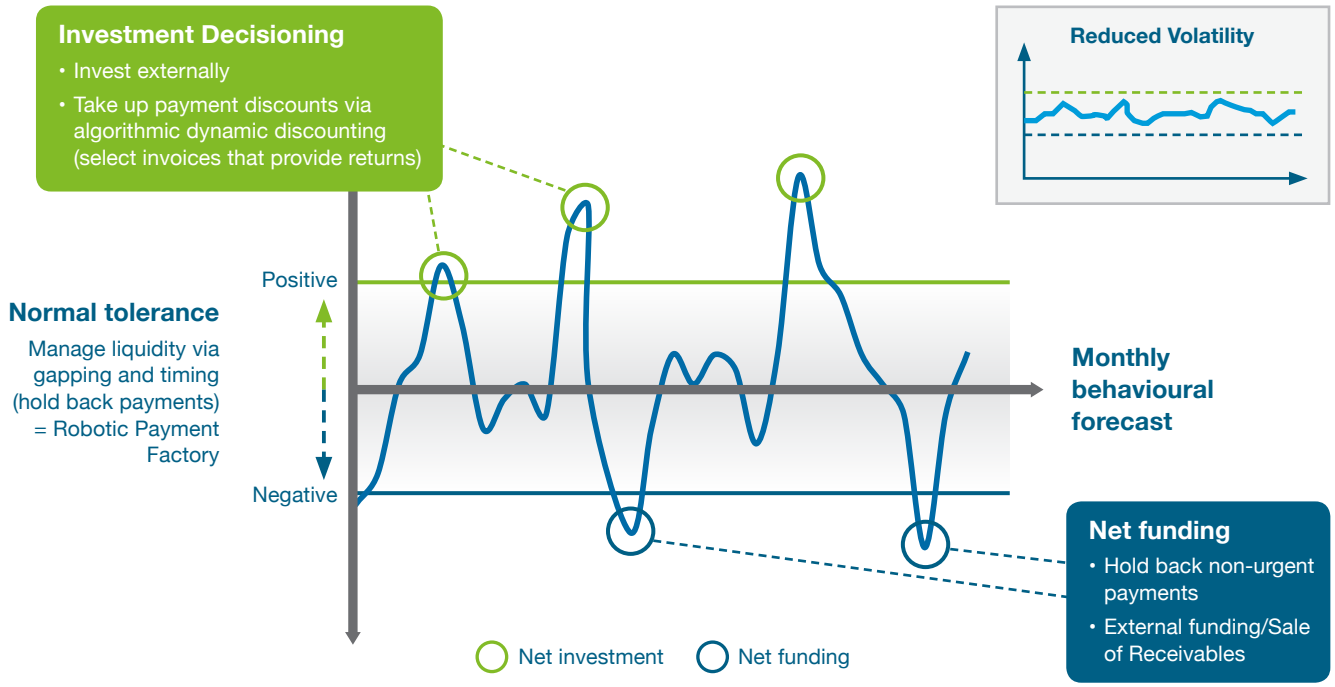
- Use of behavioural forecasting tools that 'learn' to forecast better as they accumulate data on historical patterns of forecast versus actual. For example, predicted versus actual revenue inflows for given products, channels, or business lines.

- Data visualisation tools to quickly develop management reports that are difficult to 'pull' from existing Treasury Management Systems (TMS). For example, currency exposures sliced by business line, location, region, etc. Likewise, real time liquidity dashboards customised to your requirements and showing data or views beyond those available in the TMS.

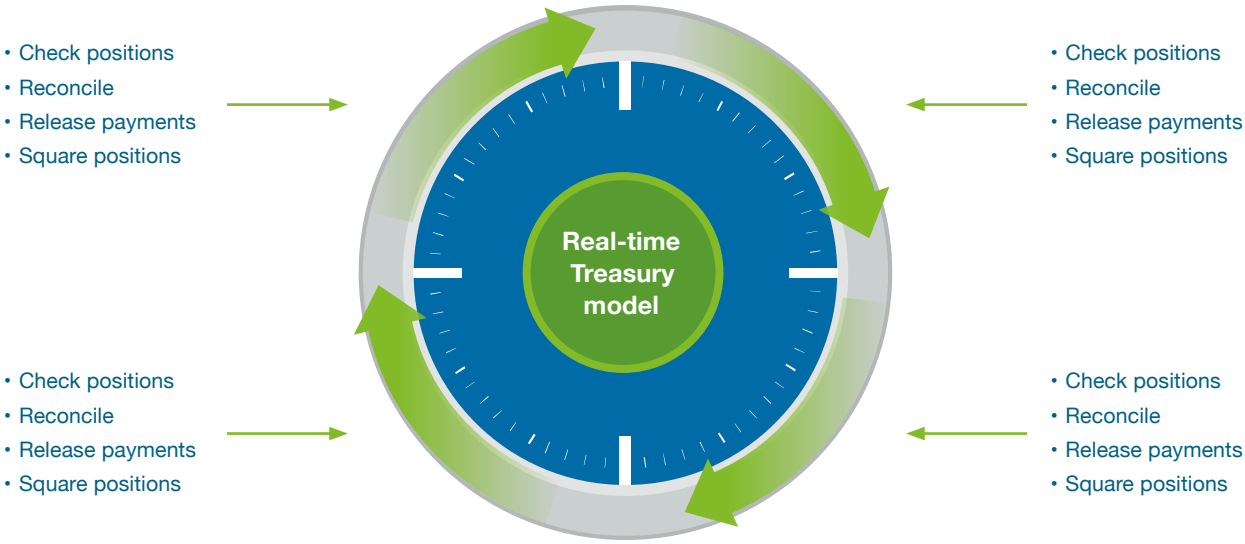
Taken to its logical extension, entire processes within Treasury should be capable of automation. For example, many Treasuries in Europe use the Payment Factory concept to 'throttle' or control the outflow of payments in any given day to match available sources of liquidity. Since this is a data driven process, it could be fully automated to operate through the course of a day. As collections come in, the resulting liquidity could be deployed as an investment or taking up an early payment discount by searching the accounts payable database for invoices with discount terms.



Conversely, shortages of liquidity could be managed by throttling the release of cash and extending DPO by only releasing payments as incoming collections arrive. In this way, the normal volatility in liquidity positions can be smoothed out over time.



As more payment systems around the world move to 'instant' formats operating 24-hours x 365 days with no currency holidays or end of day cut-offs (more than 50 countries will be live by the end of 2018), this will become even more important as liquidity will potentially need to be deployed overnight and across weekends. This brings us closer to the model of the 24-hour Treasury where automated processes will need to operate around the clock to ensure flows are optimised.



Developing value added insights

There are many more possibilities. However, the more interesting question is how the same technologies can be used to extend the remit of Treasury to providing additional 'services' or deeper analytical insights to the business. A few examples could include:

- Application of big data techniques to a wider set of data within the business to better predict medium term working capital or liquidity requirements by recognising relationships and patterns between different sets of business data. For example, looking at the relationship between production forecasts, logistics flows, inventory peaks and troughs, end point sales, and actual collections, to predict working capital and funding costs over an extended period of time.

- Developing 'plug and play' settlement platforms and payment gateways for new online channels being developed by the business.

- Developing advisory services on process automation and reengineering to assist businesses in developing more efficient processes or new products.

Business Perspective: Helping transform the business

Even more importantly, digitisation is set to fundamentally reshape the way in which many corporates operate in both positive or potentially disruptive ways. The ability to help the business navigate these changes will be critical to the future of the Treasurer as a value-added business partner who is core to the ongoing business dialogue, rather than a peripheral player or 'governance' function.

Digitisation is set to fundamentally reshape the way in which many corporates operate in both positive or potentially disruptive ways.

Reshaping business and financial processes

Positively, many technologies will drive better business and financial processes. Some examples include:

- Use of blockchain to record and evidence contractual relationships, or so called 'smart contracts'. This removes the need for different parties to maintain their own stand-alone records and ensures the key terms and conditions of a contract are agreed and immutable. This could be applicable to a wide range of areas such as insurance contracts, title transfer, securities trades, etc. An interesting application being explored by one Treasury is to use a smart contract to record the key terms of a project for FX management. Essentially the smart contract records key milestone payments and currencies that can be used to generate a record of the exposures that need to be managed and could even trigger specific FX trades to cover the exposures.

- Blockchain can also be used to initiate and record transactions, such as real-time cross border payments. Not only is there an agreed record of the payment transaction amongst multiple parties, but the underlying technology can be used to automatically authenticate and reconcile multiple bank ledgers across the payment chain, greatly speeding up payment execution.

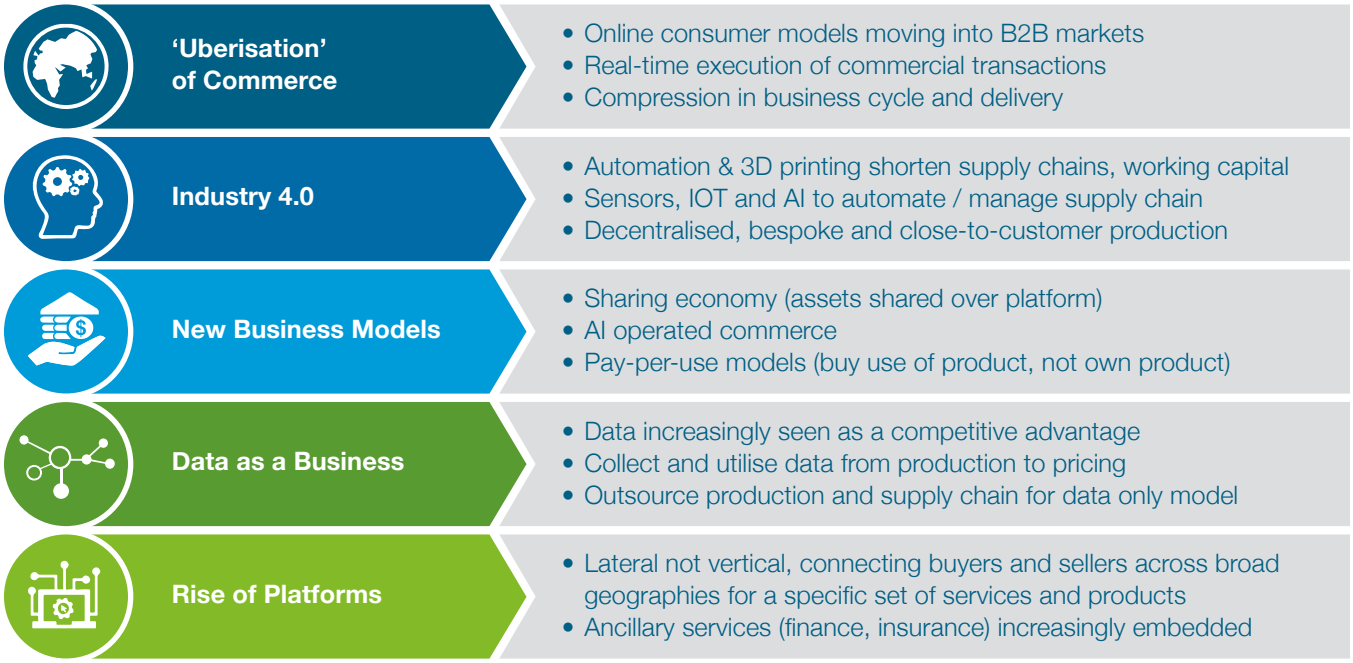
- Big data and behavioural analytics can be used to identify patterns of buying behaviour across a group of consumers to determine who is more likely to buy a specific product. This can enable more precise targeting of offers and eliminate broad based and expensive marketing campaigns but also assist in budgeting and financial forecasting activity.

- Location emitting chips can enable tracking of goods supporting automated working capital financing at different points of the supply chain as the goods move from factory to warehouse, then distributors, and finally to end buyers.

Transforming markets

Digital technologies can also disrupt markets by displacing existing services or enable existing players to expand into new areas by developing new products, new channels, or new market places.

These changes go well beyond specific Fintechs and extend into fundamental changes to the way businesses are being structured and operated. Some of the major trends powering these changes are outlined below.



Of particular note is Industry 4.0 which encompasses a profound set of changes sweeping the way industrial production is being re-shaped by digitisation and technology. A simple example is embedding sensors in machines that can measure the wear and tear of parts and then send a message to the manufacturer when a part is ready to be replaced. However, instead of manufacturing and warehousing a stock of parts, and then sending a part overseas when ordered, the manufacturer uses 3D printing at a local site to make and supply the part when it is needed on a just-in-time basis. This radically shortens the supply chain and completely changes the working capital cycle but requires new methods for ordering and settling the transaction on a just-in-time basis as well.

Likewise, the 'uberisation' of commerce reflects the ever-growing number of business-to-business (B2B) transactions that are being moved online with a consequent reengineering of the physical and financial supply chain that operates behind the scenes.

Some of the most common scenarios that Treasurers (depending on their company's industry) may need to become familiar with include:

- Moving sales online as either an additional channel to 'bricks and mortar' distribution or an entirely new online business model
- Supporting the move to a decentralised manufacturing model
- Developing an 'asset lite' business wherein resources are shared across parties using a common platform
- Bundled service offerings with a regular usage charge.

Each of these will require specific input and advice from a Treasury perspective. The question is whether the Treasury has the appropriate skill sets, knowledge and expertise to pro-actively play a role in debating and developing the model.

Or is it just brought in at the last moment when less desirable outcomes from a Treasury perspective may already be baked into the model.

The areas where a technology savvy Treasurer can maximise the value they bring to the business are examined below.

CASE STUDY 1 Online sales channel

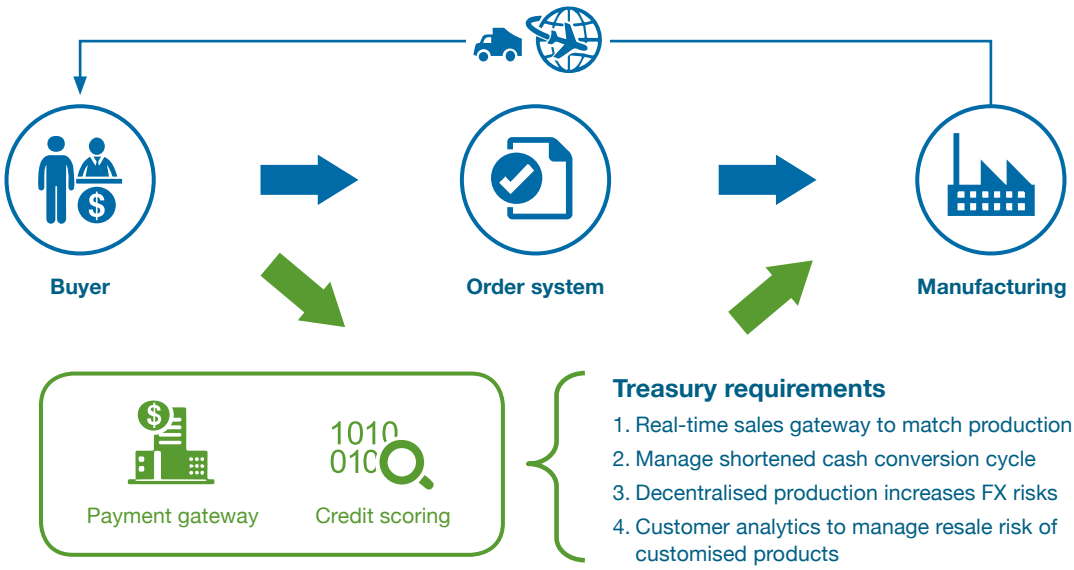
Treasury requirements

1. Cash and liquidity management process to support real-time online sales
   - Instant payments
   - Mobile wallets
   - Cards/ traditional
   - Peer-to-peer
2. FX conversion at the point of sale
3. Real-time customer credit scoring
4. Customer financing platform or via partner

This is the most common scenario. A bricks and mortar business moves its B2B sales online. This effectively means that new buyers either need to be dynamically credit scored to determine if the sale can proceed on delayed settlement terms, or be provided with point-of-sale, real-time settlement options to enable the sale to be completed online without using traditional invoicing and collections processes. As buyers in B2B markets do not generally use credit cards to purchase goods, a payment gateway with a variety of business-friendly payment options needs to be provided. Moreover, the Treasurer may need to design a solution that takes care of the FX exposures when selling in local currency, but shipping goods manufactured in another location. Financing options may also be required to support sales.

The areas where a technology savvy Treasurer can maximise the value they bring to the business is examined in four case studies.

CASE STUDY 2 Decentralised, real-time manufacturing

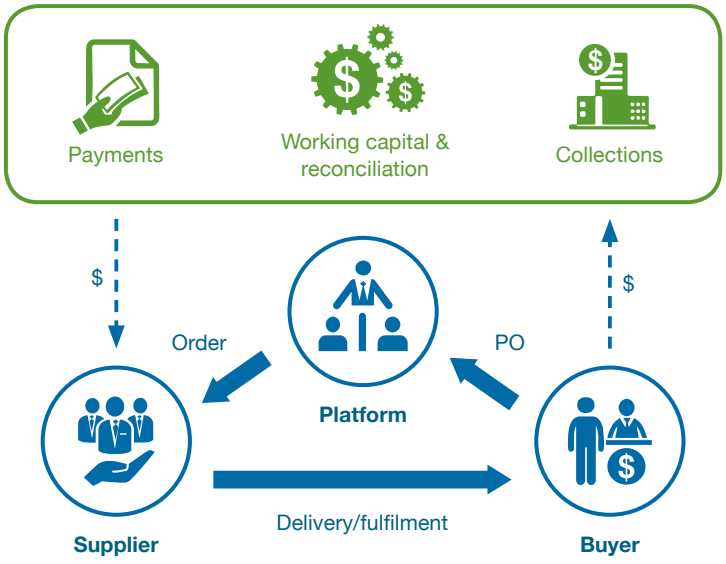


Treasury requirements

1. Real-time sales gateway to match production
2. Manage shortened cash conversion cycle
3. Decentralised production increases FX risks
4. Customer analytics to manage resale risk of customised products

This is an emerging trend in equipment manufacturing. Effectively parts are manufactured on demand, eliminating the need for intermediate agents or distributors to hold a supply of parts near to the customer. The salient points for the Treasurer are that in addition to supporting online credit scoring and sales, there is a radical shortening of the working capital conversion cycle and more liquidity generation in local markets giving rise to local currency pools and trapped cash in some markets. As such, more local production increases FX and trapped cash exposures which would need to be modelled, understood, and managed.

CASE STUDY 3 Sharing economy (pay for use)



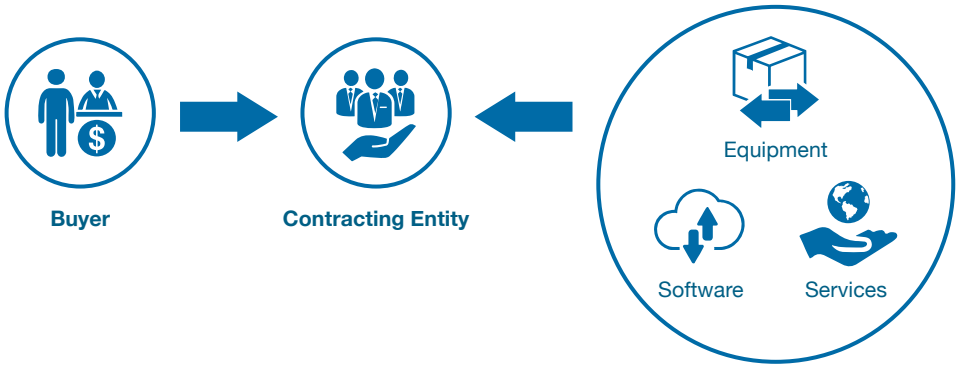
Treasury requirements

1. Real-time sales gateway for high volume of small collections
2. Point of sale FX to guard small margins
3. Platform to manage working capital
4. Fee collection to supplier payment reconciliation
5. Real-time credit scoring and limit release

Please refer to the following page for additional information on Case Study 3.

The 'sharing economy' refers to situations where multiple parties collaborate to deliver a service or product to end customers. For a corporate this may mean either using an existing market platform or building a new platform where suppliers (itself or third parties) sell goods or services to buyers. Apart from supporting online credit scoring and sales, the Treasurer may need to help design the back to back transaction matching and settlement services that link each sale to a seller and buyer on the platform and take care of settlements and commissions between the three parties. Moreover, as the operator of the market place, know-your-customer (KYC) identification processes will also need to be in place to detect suspicious activity and minimise money laundering.

CASE STUDY 4 'All-in-one' service contracts



Treasury requirements

1. SPV financing structure
2. Payments and collections gateway
3. Credit scoring models for smaller buyer segments
4. Portfolio revenue forecasting

This is a growing trend amongst equipment suppliers who over time have developed a range of value added services (e.g. software upgrades, service contracts, fixed price maintenance, insurance, financing, etc.) to go along with the sale of equipment. The prevailing trend is for customers to ask for a fixed monthly operating charge to cover everything including the use of the equipment. The provision and bundling of these different components may be via any combination of the manufacturing entity, related entities of the manufacturer (e.g. local in-country service entity) or from third parties. This may necessitate setting up a special purpose vehicle (SPV) to act as the contracting entity with associated financing and back to back invoicing and settlement processes to support the entire structure.

Expertise Treasurers will need to develop

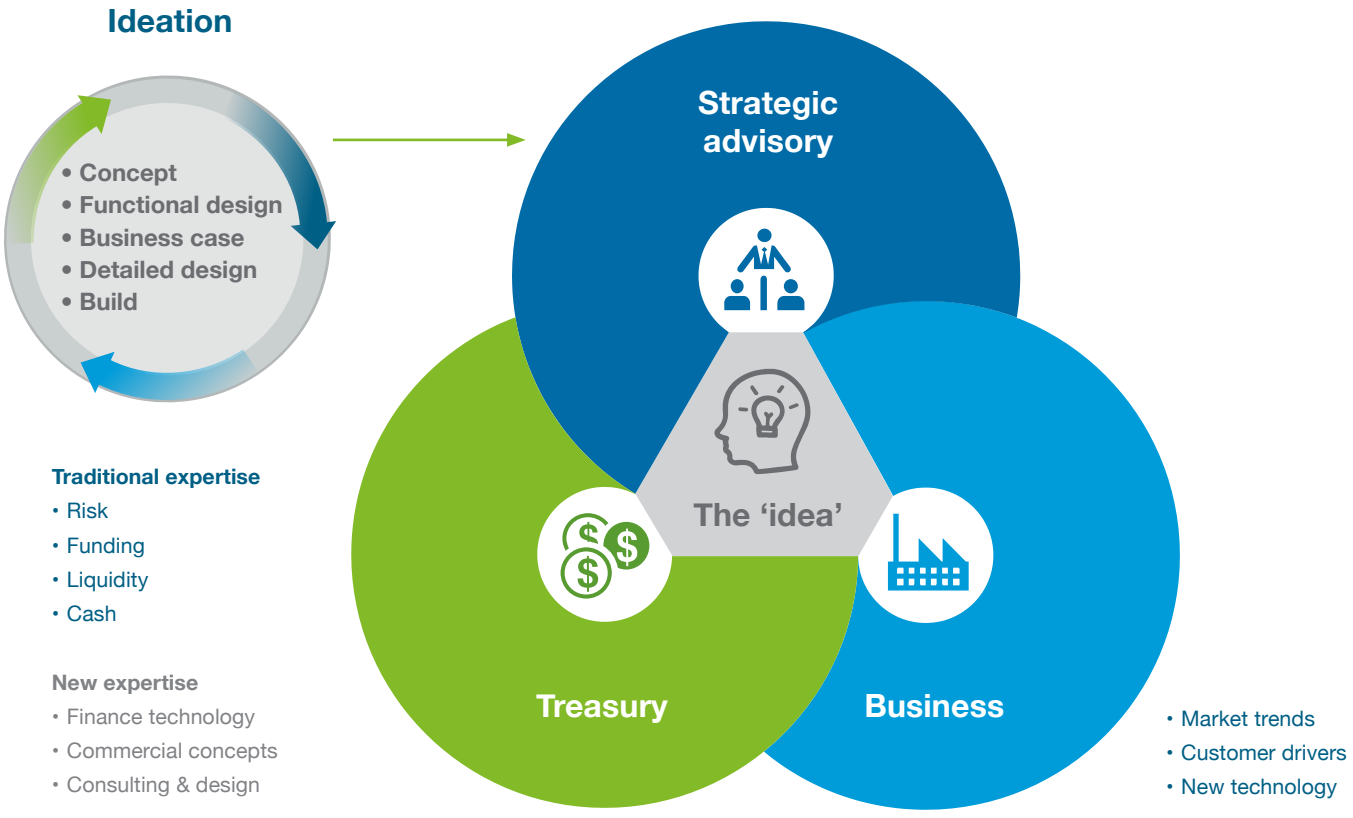
Many of these ideas have already been tested or developed by firms. Whilst the adoption of new technology will often be driven by the business or the market, there are many cases where Treasury can and should play an active role in shaping how these new business models operate, especially the financial processes that underpin the model.

Being bespoke in nature, the arrangements supporting these new business models go beyond the traditional cash management responsibilities of a Treasurer. In the past these businesses tended to evolve slowly and changes were largely incremental in nature as they most often supported an existing business using traditional channels or modes of operation. With the rapid evolution not just in business models but in payment systems and supporting technology, the level of knowledge required of Treasurers has shifted significantly.

To be truly effective, the Treasurer needs to be involved in the early ideation of the new model, not just come in at the end to fill in the gaps. This defines the essential difference between the Treasurer as a strategic adviser versus reactive governance function.

However, to do this Treasurers will need to step out of their comfort zone and become subject matter experts and advisers to the business in areas such as:

- New payment models and systems
- End-to-end financial process design
- Mobile and online commerce
- Reconciliation systems
- API integration with financial services.



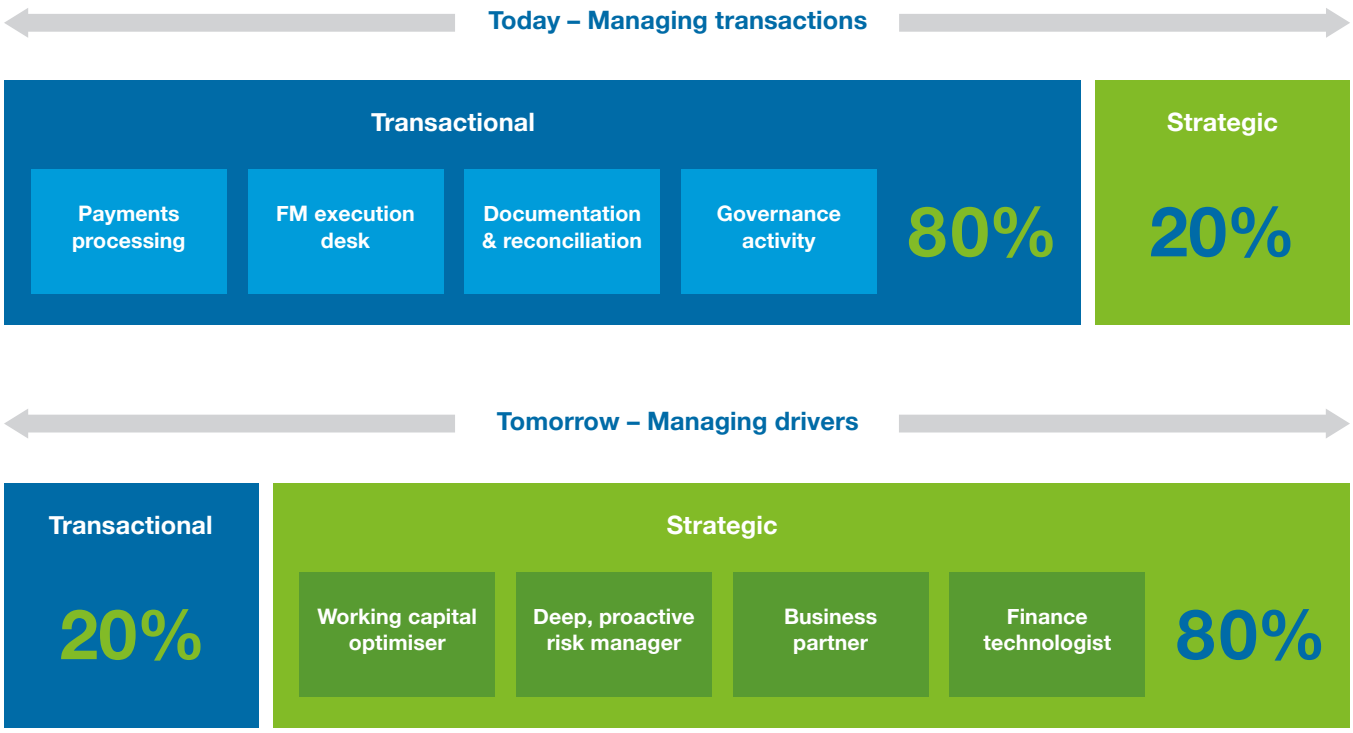
Examples of how Treasurers would deliver this expertise to the business include:

- Designing the supporting financial processes and payment options that are needed to support new online, market place, or supply chain solutions
- Educating the business on new payments channels and gateway connectivity options to support online channels and new ways of interacting with customers. For example, buying a product on an app should be possible not just via a credit card but via Apple Pay, mobile money, the local instant payment system, debit card, etc
- Advising the business on how new auto matching and reconciliation software from banks and third-party software providers can streamline the reconciliation processes associated with many financial transactions
- Help determine how cross-currency flows can be managed real-time so a product created in one country can be sold online in multiple locations and currencies without complex FX management requirements
- Develop the appropriate account structures and pooling solutions to support the underlying transactional flows, simplify reconciliation and ensure funds are efficiently concentrated and deployed.

Impact on the role of the Treasurer

Treasury surveys and conferences often highlight the view that many Treasurers wish to be more strategic and less transactional in their roles. The reality, however, is that the average Treasurer's time is taken up with a heavy workload of transactional activity with very little time left for truly strategic work.

In many ways digitisation is the ideal catalyst for a true transition to more strategic work by enabling many transactional activities to be automated. This affords the Treasurer time to get more involved in important business decisions about new channels and services and how they will be supported. This paradigm shift is illustrated below and involves a rebalancing away from transaction execution to strategic Treasury management and business advisory.



Building a Digital Roadmap

The key to starting the journey towards building digital capabilities within Treasury is evaluating the areas that would most benefit from improvement and then carving out the time to do something about it.

There does not need to be a grand strategy, although a 'digital roadmap' setting out some key objectives and milestones can be a useful way of anchoring day to day activities to some longer-term objectives.

The roadmap should ideally identify the following:

- Ultimate vision of Treasury in 5-10 years (optional)
- 4-5 key areas for immediate improvement in Treasury or to support new developments in the business
- Human skills set and capabilities required to deliver on these initiatives
- Potential technology needed to support the above
- Rough timelines and deliverables.

It is important not to over-engineer the plan but rather take an 'agile' approach to learning, executing, and learning from mistakes. The important thing is to gradually build expertise in the key areas most relevant to your Treasury and business.

Whilst Treasurers need not magically transform themselves into 'digital ninjas' overnight, it does mean investing in the development of existing Treasury staff or bringing in new staff with different skills sets to complement the 'finance heavy' nature of most existing Treasury teams. For example, should your next hire be a finance graduate or a data scientist? A finance expert or a process design expert? A Treasury processes expert or a software engineer?

Experimentation is an excellent way of acquiring new skills sets and knowledge. For example, deploying low-cost data analysis tools or implementing RPA for a few low-risk but repetitive processes. As skills are developed and wins can be demonstrated, bolder projects can be attempted.

Likewise, regularly meeting with Fintechs and progressive banks like ourselves who are committed to their own digital transformation can expose Treasury to new ideas and concepts, sparking the development of your own ideas and initiatives.

The role of your bank in your digital journey

At a recent Standard Chartered Treasury Leadership Forum, corporate panelists unequivocally shared the view that banks perform the role of a trusted partner, providing professional and objective guidance to them during their digitisation journey. They also highlighted the important role of the government in facilitating the creation of a transparent, fair, and open ecosystem for market participants.

Apart from having a dedicated group of ex Treasurers who are working with many of our leading clients on their digital transformation journeys, Standard Chartered aims to be the leading digital bank in its core regions of Asia, Africa and the Middle East.

Banks perform the role of a trusted partner, providing professional and objective guidance during the digitisation journey.

Through dedicated technology labs in Singapore, Hong Kong, and London, and via its investment in SC Ventures which collaborates, invests and nurtures leading Fintechs, Standard Chartered is leading the way in digitisation.

In fact, Standard Chartered has now developed more than 40 proofs of concept in the digital space, several of which are now being fully commercialised, by collaborating with a range of our clients. These include:

- Leading the RippleNet consortium which brings together a group of the world's largest banks to deliver an alternative x-border transfer mechanism to SWIFT.
- Using big data for real-time, dynamic credit scoring across several of its businesses.
- Using APIs in multiple scenarios to integrate with blockchain based solutions to process and exchange real time payments and statement data with clients. The most recent of these was a publicly announced partnership with Ant Financial to process cross-border remittances in Asia.

- Deploying mobile wallet technologies to support improved finance processes. We recently collaborated with one of China's largest shipping companies to use mobile wallet as a freight/fee collection solution across ASEAN countries as part of its Belt & Road expansion plan. Likewise, we have helped several insurers reach unbanked customers by offering low costs policies that can be purchased using mobile money.

- Rolling out a multi-payment gateway that connects apps and other online platforms to multiple payment channels and platforms such as mobile money, peer to peer payments, instant payments, credit/debit cards, etc.

- Creating an automated financing solution that uses the 'internet of things' to track the movement of vehicles from manufacturer to dealer and customer via satellites and geofencing. As the vehicles pass from party to party, key events in the financing programme are automatically triggered.

- Delivering real-time cross currency FX processing tools to sit behind online and app based point of sale applications including several major airline websites and online booking services. For example, a Shanghai-based airline with over 100 routes is using Standard Chartered to connect with WeChat Pay for online/mobile collections.

- Working with a group of leading international trade banks to develop a global trade utility platform that will enable the electronic sharing of trade related documents between banks, corporates, freight forwarders, shipping companies, customs agents, and others to automate end-to-end documentary trade services.

- Working with a major online securitisation market place to fund receivables transactions whilst also evaluating a blockchain based marketplace to support corporate bond issuance on a price offered basis or via dynamic reverse auctions without the use of brokers or intermediaries.

- Partnering with a major mining house and trade finance platform to put their receivables on the blockchain and then connect to multiple banks using APIs so receivables can be dynamically discounted and funded by different banks.

The key to building a digital Treasury is evaluating the areas that would most benefit from improvement and then carving out the time to do something about it. Our cash management team offers valuable insight to assist in this very important journey. For more information **visit www.sc.com**

Victor Penna
Head of Cash Management, Europe & Americas and Global Head of Treasury Solutions

Victor Penna is the Global Head of Standard Chartered Bank's Treasury Solutions team, a group of ex Treasurers who work with clients on Treasury transformation projects. Over the past couple of years, he has worked closely with some of the world's largest organisations on their digital transformation strategy, leading workshops and round tables with more than 250 large corporations and financial intermediaries. He is also the Regional Head of the Bank's Cash Management business for Europe & Americas. Victor has over 30 years' experience in finance, banking, reengineering, technology development, and management consulting. He is a digital evangelist and admits to spending far too much time on his iPhone experimenting with new apps.