

A Treasurer's Guide to Data Analytics

By Tom Alford,
Deputy Editor

As a resource, data has been described as 'the new oil'. But as with oil, something has to happen to it to make it useful. For treasurers, data analytics is a discipline that can no longer be left to the IT team. We explore the reasons why.

The numbers related to data production are mind-boggling. The amount of captured data already generated has been estimated by the World Economic Forum at 44 zettabytes. That's 40 times more bytes than there are stars in the observable universe. By 2025, the daily generation of data is expected to reach 463 exabytes globally.

The increasing importance of knowing how to handle this immense resource is driving change in treasury. It is ushering

in the discipline of data analytics, shifting it from being a function of IT towards one that professional treasurers must also grasp as an essential tool of the trade.

Powerful drivers

Increasing treasury complexity, the march of digitalisation, regulatory compliance, pressing issues around liquidity and working capital management, increasing competition – all of these should now

figure as drivers for individual treasurers to enhance their data analytics skill sets. Indeed, it's rapidly becoming an essential marriage of professional and technological competences because failing to correctly interpret the right data may now be viewed by some senior stakeholders (not least the board and the investors) as a fundamental management weakness.

Of course, sitting at the crossroads of company cash flow, treasurers are charged with managing specific risks – foreign exchange (FX), interest rate, liquidity, counterparty risk and so on – and these “need to be measured to be managed”, says Dino Nicolaides, MD, Head of Treasury Advisory UK & Ireland, Redbridge Debt & Treasury Advisory.

“But related data is often siloed and frequently in a format from which it can be difficult to derive any sense, if it is even accessible,” he notes. Data analytics has a role to play in enabling data consolidation and classification, transformation, modelling and reporting, “all with the goal of supporting effective treasury decision-making”.

Some treasurers may question their need to enmesh themselves in this traditional IT function. But, says Joan Gelpi, Head of Data & AI, Global Transaction Services, Bank of America (BofA), for data analysis to fully support treasury (and thus the business) it absolutely requires treasury subject matter expertise. “Only treasurers fully understand the appropriate modelling assumptions and hypotheses to produce usable output,” he argues. IKEA's case study (see box) demonstrates the power of merging treasury and IT data skills.

In and beyond treasury

Cash flow forecasting is a prime candidate for improvement by data analytics. “Treasury's responsibility for liquidity management increasingly demands accuracy here to ensure business-as-usual is maintained,” Nicolaides explains. Treasurers faced added urgency during the pandemic as revenue streams became evermore volatile and the reliability of funding sources in the early days was often uncertain.

However, with the challenges stemming from manipulating vast siloed data sets, Gelpi observes that it is frequently necessary to deploy simplifications of them, to the detriment of forecasting accuracy. “Yet with

the power of computing today, it is possible to use granular data to incorporate the nuances even of specific transactions into the forecasting model, to improve them.”

As the means of handling more data are adopted, it becomes increasingly likely and desirable for treasury to work beyond its core remit. Its central position within an organisation places it in regular dialogue with a wide ecosystem of functions including accounts, the CFO, and various operational units, notes Guillaume Roudeau, Senior Director, Redbridge Debt & Treasury Advisory.

With that wider ecosystem to support, each with different concerns, treasury has to find ways of reporting different data sets to each, he says. By engaging in the wider conversation, treasury becomes a trusted source of information for other functions, analysing and advising on the impact of FX volatility on new non-core currency contracts or the setting up of overseas operations, for example.

Indeed, FX risk management may be optimised through efficient data analytics, suggests Roudeau. When different business units within an organisation are providing pricing quotes for major projects to customers, these units should be seeking treasury guidance around FX and hedging. “Accurate information helps the units take a more considered pricing decision – and that can safeguard profit margins,” he explains.

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JOAN GELPI

Head of Data & AI, Global Transaction Services, Bank of America (BofA)

With supply chains, supplier data analysis opens up opportunities for vendor and expense management, for example, notes Gelpi. Basic transactional data is broadly similar across lines of business and functions. By using this fairly uniform but potentially vast data source as a starting point, he believes the application of analytical methodologies will detect emerging patterns, such as trends in payment timings or shifting order flows. In turn, this can facilitate decisions on expense optimisation and vendor consolidation, for example.

Extent of knowledge

It's a given that treasurers understand core treasury systems. But, says Roudeau, a working knowledge of data-specific software such as business intelligence (BI) systems and of data warehousing processes

is increasingly valuable. Treasurers should also be developing an understanding of more advanced technologies such as artificial intelligence (AI) and machine learning (ML), he argues.

Although Roudeau notes that in the shorter term, "because there are few who have the required knowledge of both treasury and data science", their emergence nonetheless "edges treasury closer to the data scientist world". For practitioners still

bound to spreadsheets, this may all sound fanciful. But even learning advanced skills in this medium, to be able to 'slice and dice' the right data, has considerable value.

But if ML is to create what Gelpi refers to as "a new paradigm in treasury understanding", discovering how to create accurate metadata (data about data) becomes necessary too, and for good reason. ML creates its own algorithms but does so initially based on its understanding

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INGKA GROUP (IKEA): AGILE DATA MANAGEMENT

As part of the Ingka Group, global home-furnishing brand IKEA's group treasury is supported by a unique team of eight technical specialists, combining dedicated IT and treasury experts led by Michael Aandahl, Head of Digital Treasury. His operation gets swift results, especially when it comes to data management. As Aandahl acknowledges, "we don't have to wait for IT to complete a project, we're already part of it, so we can move much faster".

Within any business, a vast and rapidly expanding pool of data brings with it certain issues. With Ingka Group's processes creating pain points where repeated checking is demanded, the Digital Treasury team decided to go back to basics, looking at data formats and sources. And for good reason.

"As an organisation, we want to be more data-driven. In terms of identifying the highest value to the business, the obvious one to us was artificial intelligence [AI]. But to increase AI accuracy, we need the highest quality data," states Aandahl.

Ingka Group has already made significant progress with AI enabling short-term cashflow forecasting accuracy to reach 91% under test conditions. In the run up to go-live in Q1 2021, AI has been analysing sales forecasts, the results being uploaded to the group's FIS Quantum treasury management system (TMS).

Other elements of incoming and outgoing cashflow data, such as inter-company payments, are now being added too. "It's gradually coming together and we can see this is something we will use to increase forecasting precision," comments Aandahl.

Robotic assistant

At a broader level, Ingka Group treasury's data import and export activity between systems is extensive, and this has historically been

labour-intensive, notes Aandahl. "With data updates from various stock exchanges and different currencies, for example, it represents a lot of manual work."

Around two years ago, his team started to make use of robotic assistants, mostly rules-based devices deployed across spreadsheets to clean up data before uploading to the TMS. "I usually say robotics shouldn't be part of your strategic direction for systems – it's better to have more integration than use robots to capture data from diverse sources," Aandahl comments. "Nonetheless, we use it to carry out some of the cleansing and enrichment during the data import process. I have to admit that this has driven down our workload considerably."

With the pandemic having created an urgent need for real-time liquidity reporting, the team's integration focus was able to shift accordingly. "In the first wave, we quickly had to understand our liquidity position," Aandahl explains. In most cases, the data was already there, so the effort was centred on extracting it in the most efficient way, and presenting it in the clearest format to senior management. "With a lot of hard manual work, we made it happen," he says. "We're now making real-time reporting part of our ongoing business operations, so if a 'here-and-now' data snapshot is required, it's no problem."

In creating an embedded treasury/IT setup, Aandahl has removed what he deems to be "an in-built conflict", where IT is seen as a support function that will do as it is asked, but will not be part of the steering of other functions. "If a company has the resources, it makes a lot of sense to join forces," he says. With its unique treasury/IT approach enabling Ingka Group to move ahead with increased agility and speed, it's likely that data management will soon be climbing every treasurer's agenda.

of (correctly) labelled historical data (whether an outcome was good or bad, for example). And, as he said earlier of modelling assumptions, this cannot be approached without a working knowledge of treasury.

The role of treasury may to an extent be merging with that of data scientist but Gelpi is quick to point out that the requisite components of a good data scientist are already present in many treasury professionals. All treasurers have subject matter expertise and therefore know what they are looking for in data. Many will have some knowledge of mathematical statistics, and of computer science too. “And data science is an intersection of the three,” he explains.

Full proficiency may require “a little more literacy in computer science”. But with a boost in “conversational knowledge” of data bases, and a basic understanding of algorithms and ML, and possibly “a one or two notch improvement” in mathematical statistics, the notion of treasurer as data scientist is, he feels, entirely feasible. “And even if they do no more than consume treasury products, it will benefit all treasurers to learn more about these topics.”

Future-proofing

Any treasury intent on revising its data analytics architecture will be trying to future-proof it, says Nicolaides. This may not be achievable, he warns. Organisations and the markets in which they operate are dynamic; what works today may not work tomorrow. A business therefore must constantly review and revise its approach “to ensure it continues to look ahead and remain relevant”.

From Roudeau the advice is to bring on board more knowledge through people that are data-oriented, “to cope with the new technologies, to explore, understand



MICHAEL AANDAH

**Head of Digital Treasury,
Ingka Group**

and report on this ever-expanding resource in the best way possible”. And this, he adds, must take place while continuing to develop and merge traditional treasury skills. One way to push ahead is by working with trusted partners.

Bank input/output

With banks holding “vast lakes of data” that they can share with corporate clients, it should be expected that their investment in analytics is ongoing, notes Gelpi. He explains that bank investment in data management systems and analysis “is crucial because many clients will not have the capacity to do so”.

One current area of investment focus by BofA is the development of ML where enhanced cash forecasting, anomaly detection and transactional optimisation are common goals. “We’re investing in and building AI so we can provide that to



GUILLAUME ROUDEAU

**Senior Director, Redbridge Debt &
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clients, alongside our advisory services,” reports Gelpi.

It’s likely that a host of new data services will be made available to corporate clients through application programming interfaces (APIs) and online self-service pathways. But while Gelpi notes many clients are already exhibiting increased sophistication around data analytics, he is quick to assure all that this does not need to be a solo journey. For him “maintaining the highest quality and availability of data and analytical output should be matched by expertise on how best to deploy it”. ■

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For data analytics action points, view the infographic that accompanies this article



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