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OPEN BANKING FOR CORPORATES: UNLOCKING REAL ADDED VALUE IN TRANSACTION BANKING WITH APIS

EBA Open Finance Working Group

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The COVID-19 pandemic has significantly accelerated the digital transformation of corporates worldwide as the use of digital channels proliferated. This has caused various stakeholders across industries – from finance and treasury, to product, sales and customer service – to digitise their operations and business processes. Traditional channels connecting corporates to their transaction banks are inadequately equipped to handle real-time, on-demand access to data and other digital capabilities. Application Programming Interface (API) technology, on the other hand, could provide a viable solution by enabling accessibility improvements to meet ever-evolving corporate needs in the digital era.

Accelerated by embedded finance strategies and regulatory developments such as PSD2, API-enabled products and services have been primarily focused on the retail segment. However, the use of API technology in transaction banking is gaining momentum. This is evidenced by corporates increasingly buying into APIs offered by their transaction banks to improve corporate treasury operations (in the B2B space) as well as client-facing business processes and experiences (B2B2X[1]).

Transaction banks offering APIs can help treasury with better cash and liquidity management and with the effective management of associated risks. Corporate treasurers serve as a pivotal linking pin as they manage the bank relationships and steer daily cash-in and cash-out activities and the related financial data exchanges with other departments. Due to growing demands from both senior management and relevant business-side stakeholders responsible for optimising client processes and experiences, the role of the corporate treasurer is becoming increasingly important. As a consequence, treasury is evolving from a traditional back-office function, in which batch-oriented processes and associated delays are commonly accepted practices, towards a front-end function supporting business stakeholders who need instant, on-demand insights and operations to enable more seamless B2B2X service models.

APIs provide opportunities across all domains of treasury services, including embedded finance opportunities to enhance the customer experience. APIs can simplify and improve how treasurers work together with their transaction banks in terms of:

1. on-demand and real-time operations and data visibility

2. digitisation of workflows

3. centralisation of operations

1 B2B2X is a business model where the service providers contract businesses (the Bs) to create and deliver new services for any type of end-customer (the X).

Although APIs are likely to play a growing role in shaping real-time, on-demand treasury operations and business processes, various obstacles need to be overcome. An API as such does not have an intrinsic value. The value comes with standardisation and a common set of rules supporting concrete use cases for corporates. API solutions currently only cover a fraction of the corporate market, and they vary in terms of scope, functionalities, specifications and user experience. Besides this fragmentation, IT solutions, processes and workflows that have been based on traditional connectivity channels rely on batch-based file transfers, often at fixed time intervals, and will need to undergo significant changes to adapt to real-time and on-demand capabilities. Catering for these changes requires time and attention to better understand where and how APIs can add value and to determine how to maximise the return on investment.

Several considerations need to be taken into account to make APIs work at scale across the ecosystem of corporates, their transaction banks and technology providers. For transaction banks to succeed in this space, API-based connectivity needs to add real value compared to traditional connectivity channels, in terms of better customer experiences, cost efficiency and risk management. Banks need to understand customer pain points and translate them into value-added propositions beyond payments and reporting. A seamless API onboarding process and solid developer experience are two hygiene factors for the adoption of APIs and thus for the success of transaction banks in this space.

Technology providers play an important role for organisations when implementing APIs. By facilitating standardisation, lowering the entry barrier for API implementation, and providing easy-to-use banking services, they enable real-time experiences in treasury and business operations. As a result, API partnerships with technology providers (e.g., TMS, ERP and specialised Fintech players) are essential for the go-to-market approach and to increase the adoption of APIs at scale.

Treasury is an integral part of the corporate-to-bank relation and faces various challenges (e.g., in digitisation and its impact on the overall infrastructure and system landscape). Its involvement is thus of key importance to identify pain points and considerations.

The new frontier in API-enabled transaction banking will be tackled successfully when corporates, transaction banks and technology partners work together.

1. INTRODUCTION

The initial focus of Open Banking has been centred around the retail segment, enabling a variety of use cases for private individuals and small and medium-sized enterprises (SMEs)[2]. This has partly been driven by requirements introduced by the revised Payment Services Directive (PSD2) and the accompanying regulatory technical standards (RTS) – including, for example, specific authentication and authorisation requirements that focus on consumer experience but are not well fitted for corporate workflows. Furthermore, the scope of PSD2 compliant application programming interfaces (APIs) contained limited functionalities, effectively hampering the corporate use of account information services and payment initiation services. This contributed to APIs being deemed inferior to the existing solutions corporates use today, even though the existing solutions do not support real-time and on-demand functionalities. However, the attention is increasingly shifting away from these regulatory APIs towards premium, business-to-business (B2B) APIs tailored to the needs of larger corporate organisations.[3] The cause for this shift can be attributed to a range of trends and developments impacting the way corporates work.

As a result, APIs are becoming an important strategic priority for many organisations, their technology providers – including, but not limited to, Enterprise Resource Planning (ERP) and Treasury Management Systems (TMS) and various specialised Fintech players – in addition to servicing transaction banks. This report provides insight into the financial needs of corporates, the role their transaction banks can play, and how technology providers can add value in this emerging landscape of B2B APIs.

1.1 TRENDS AND DEVELOPMENTS DRIVING THE NEED FOR CHANGE

Recent trends and market developments impacting organisations are driving a need for change in the corporate financial functions. Some of the key factors are listed below, grouped into three main categories:

- **Technological advances and changing expectations** – An increase in processing speed, data accessibility, advanced analytics and access to integrated services is increasing the availability of innovative solutions and effectively raising customer expectations. Looking at today's technological solutions there is a wide spectrum of opportunities. This begs the question why these possibilities have not made their way into transaction banking. Additionally, from a fraud and security perspective, fraud prevention and risk management solutions can greatly benefit from access to on-demand visibility and improved access controls.

2 Euro Banking Association (1 June 2022) Open Banking for SMEs: Enhancing Financial Services for the backbone of Europe's economy. Available at: https://www.abe-eba.eu/thought-leadership-innovation/open-banking-working-group/

3 McKinsey (5 October 2021) From tech tool to business asset: How banks are using B2B APIs to fuel growth. Available at: https://mck.co/3Ados6j

- **New and upcoming regulations** – The regulatory landscape is increasing the focus on data accessibility and increased transparency. A variety of data acts have emerged, not only in Europe (e.g., PSD2, Open Finance, Data Act, Digital Markets Act) but also across the globe (e.g., Australian Consumer Data Right, Mexico's Fintech Law). These are stimulating financial institutions to allow access to financial data related to their clients and products.[4]

- **Changing market dynamics** – Disruptive changes to the macro-economic environment such as the impact of the COVID-19 pandemic, the energy crisis, recession, rising inflation and ongoing geopolitical frictions require organisations to stay alert. Moreover, the competitive landscape has shifted, with Fintech and BigTech players enabling new solutions in financial services.

It is important to understand these developments to grasp the challenges of corporates' evolving financial needs. Corporates need to invest in their IT infrastructures to optimise internal processes and improve operations to keep up with the latest developments. Especially, corporate treasury nowadays need to 'do more with less', which often results in them focusing on limiting expenditure and optimising cashflow across the business.

1.2 FINANCIAL ACTIVITIES AND THE CHANGING ROLE OF CORPORATE TREASURY

In addition to the above-mentioned trends and market developments, the evolving role of corporate treasury can also be considered as a main driver of the need for change.[5] Indeed, looking at corporate organisations and the financial activities they manage across departments – and often also across countries – there is a significant challenge to ensure these operations are performed holistically. Corporate financial tasks can be roughly divided into four categories, as depicted in **Figure 1**. Meanwhile, transaction banks support their corporate clients through a number of services, including cash management, trade finance, capital markets and business loans and supply chain financing. The relationship manager in this case is often the corporate treasurer, making them a pivotal linking pin between a variety of stakeholders, both internally within the organisation, as well as externally with the respective transaction bank.

Over the past decade, activities related to the treasury department (e.g., handling payments and liquidity, and managing the organisation's working capital cycle) have started playing an increasingly important role. This evolution is driven both by a change in end customer expectations, with a shift towards the availability of instant and flexible payment solutions and services, and by a growing need to involve treasury insights in top-level decision-making. For example, treasurers can help senior management to understand how different strategic decisions will affect the company's exposure to financial risk. In addition, they can assist the business

4 Bank for International Settlements' (November 2019) Report on Open Banking and application programming interfaces. Available at: https://www.bis.org/bcbs/publ/d486.pdf

5 Šarkanová, B. (2017), Current trends and the evolving role of corporate treasury management. Available at: https://www.ef.umb.sk/konferencie/kfu_2015/prispevky%20a%20prezentacie/Sekcie/Šarkanová.pdf

stakeholders by aligning the required solutions which enable them to better support the end customer. As a result, treasury is moving from a back-office function, in which batch-oriented processes and associated delays are commonly accepted practices, towards a front-end function supporting business stakeholders who need on-demand and instant insights to enable better B2B2X service models. Current operating channels are based on traditional solutions with fixed time intervals. Such processes slow down operations and are much more cumbersome than the seamless experience provided by financial services available in the retail sector. Furthermore, treasuries do not necessarily have the IT systems and processes capable of supporting 24/7 instant operations.

APIs can form the basis for enabling an array of benefits, providing corporates with on-demand, real-time visibility, initiation, and processing, as well as integration opportunities into the system environments of choice. This opens up avenues for intelligent banking services, supporting optimised forecasting and risk management needs. Banks can play a key part in facilitating this change, leveraging B2B APIs to cater for the substantial changes in the transaction banking landscape and to account for the newly emerging needs of their corporate clients. Simultaneously, using APIs provides banks with the opportunity to strengthen their client relationships. By expanding their offerings with on-demand connectivity options and process optimisation options for treasurers and business stakeholders, they can move further along the value chain and closer to their corporate clients.

This section explored the ongoing trends in transaction banking and how they are affecting the role of treasury and other relevant business stakeholders. The following section will introduce the current corporate landscape and workflows, highlighting the value of change.

FIGURE 1 CORE CORPORATE FINANCIAL TASKS

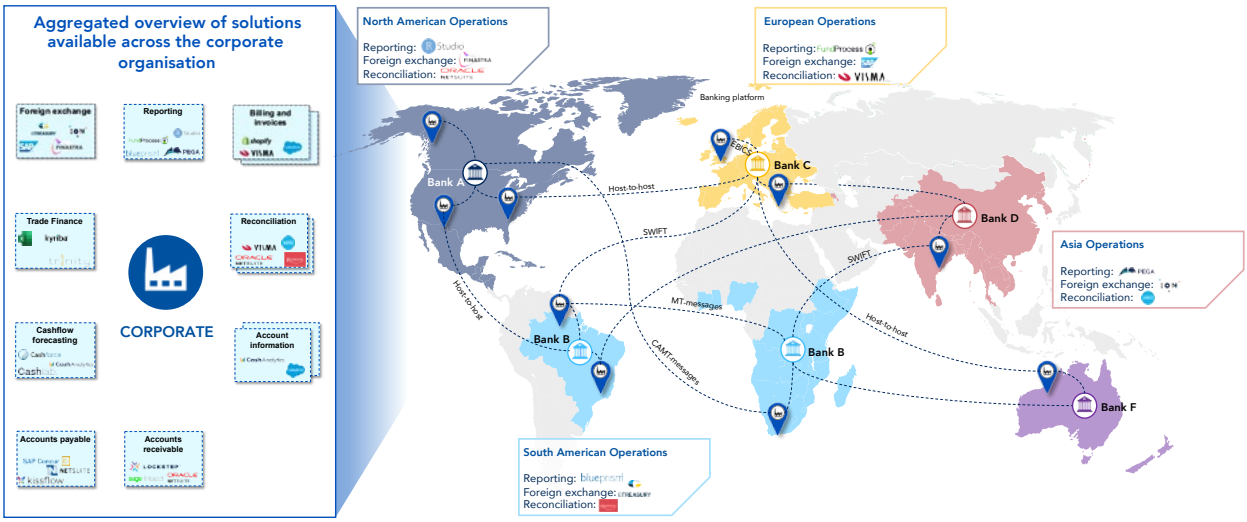
Source: INNOPAY analysis

2. CHALLENGES OF THE CORPORATE SYSTEM AND CONNECTIVITY LANDSCAPE

Organisations often utilise multiple solutions to cater for their daily operations, as illustrated in **Figure 2**. Depending on the structure and size of the organisation, their financial activities are either distributed across departments or centralised with a need for data exchange with other departments to gather the necessary details. Either way, it can be challenging to ensure that the necessary financial information arrives at the corresponding location, in the required format, in a timely and secure manner.

Further complications arise when internationally active organisations need to address market dynamics and regulatory requirements specific to the various countries in which they operate. In addition, bank service offerings can also differ, for example, in terms of the types of services and the way in which they are offered (including pricing, functionalities and digital channels). Ultimately, it can be very complex to piece this fragmented corporate user experience back together.

FIGURE 2 **FINANCIAL SOLUTION LANDSCAPE OF INTERNATIONALLY OPERATING CORPORATES**



Corporates face fragmentation in their treasury landscape when performing daily operations

Corporate operations
Corporate organisations typically have operations across multiple countries, banking with a variety of transaction banks to better serve local client needs and to diversify risk

Multiple solution providers
Depending on the operating country or department of the organisation, a variety of solution providers are utilised to solve daily challenges

Market dynamics & bank discrepancies
Operating globally often implies the establishment of multiple banking relationships or at the very least requires cooperation with different bank subsidiaries

Source: INNOPAY analysis

2.1 CHALLENGES OF A FRAGMENTED APPLICATION AND SYSTEM LANDSCAPE

Navigating and constantly switching between software applications can be a challenge to the efficiency and effectiveness of organisations. Various applications are used to address specific problems and align certain functional and technical requirements. Those requirements stem not only from the tasks to be performed, but also from general company policy as well as current and expected future technology trends, and regulations. The solutions that support the defined requirements are typically utilised and managed by multiple departments of the company and they often have different requirements and priorities. In addition, due to unpredictable external forces the requirements are sure to change, which makes it difficult for software vendors to keep up with the constantly evolving needs.[6]

The result is a situation in which companies repeatedly choose and implement new solutions that are best suited to the challenge at hand. Ideally, for each new application, an old one can be phased out and decommissioned. However, in many cases, old solutions remain operational, whether as part of an undefined transition period or out of concern that a potential back-up solution could be needed. Over time, this produces a fragmented application and system landscape comprised of many data sources and data repositories that drive up the costs of running the corporate applications and systems. Furthermore, the available solutions used across a corporate organisation may be based on different data formats or varying connectivity options. This leads to difficulties in consolidating data and obtaining an aggregated view of the company's positions, requiring corporate employees to perform tedious and cumbersome manual tasks to pool the information together.

2.2 GEOGRAPHICAL SPREAD AND DISCREPANCIES IN BANK SERVICE OFFERINGS

Large organisations usually operate across national, regional, and even global borders. This typically implies the establishment of multiple banking relationships or at the very least requires cooperation with different bank subsidiaries. As a result, the dynamics between organisations and transaction banks in different regions call for their own specific ways of working.

This is reflected at various levels:

- **Different channels** such as EBICS, SWIFT, host-to-host (H2H), hosted solutions or bank-owned platforms: Depending on the region, the default connectivity solution might be one or any combination of these.

- **Different data formats**: despite international standards such as ISO 20022 which takes us another step closer to global standardisation, local standards, or variants of the international standards (e.g., MT, MX and CAMT messages, and local flavours) are still in use.

6 Droga, D., Shah, B. (27 September 2022) Keeping up with Customers' increasingly Dynamic Needs. Harvard Business Review. Available at: https://hbr.org/2022/09/keeping-up-with-customers-increasingly-dynamic-needs

- **Different service offerings**: the available services will differ depending on the bank, its region, business focus, underlying architecture, and simply individual preferences. These differences can apply in terms of scope, structure, service levels and more.

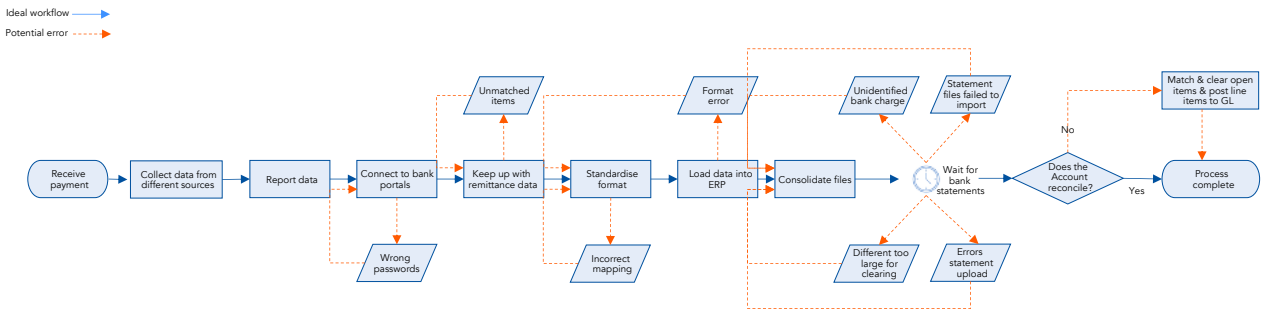
The geographical spread, solutions with limited integration possibilities and lack of standardisation create a fragmented user experience for organisations and their treasury. This becomes increasingly visible, particularly when consolidating data and operations, introducing sizable challenges for organisations, not only internally but also in collaboration with their transaction banks and other service providers.

2.3 DAILY TREASURY TASKS AND FACTORS HINDERING PROCESS OPTIMISATION

The fragmented landscape described above translates into several operational inefficiencies for corporate treasury. In areas like accounts payable and receivable, bank account management, credit, collections and FX, corporate treasurers still frequently deal with manual operations. **Figure 3** provides an illustrative example of the necessary steps for the reconciliation of payments. Manual and paper-based methods are still prevalent across all kinds of treasury departments. According to the results of a transaction banking survey[7], automation of payment remittance, receivables tracking, and reconciliation remain the most important areas to improve.

7 Transaction Banking Survey (2021). CGI. Available at: https://www.theglobaltreasurer.com/resources/2021-transaction-banking-services-survey/

FIGURE 3 **EXAMPLE OF A MANUAL TREASURY OPERATIONAL PROCESS: RECONCILIATION**



Source: INNOPAY analysis

Furthermore, traditional channels (e.g., EBICS, H2H, SWIFT) rely on batch-based processing to exchange data such as payment messages and account information. Based on these features, treasurers have adapted their work processes, retrieving statements at fixed times of the day and stacking up payments before sending them out. The resulting workflows often contain a significant amount of manual and repetitive operations that are inconvenient and error prone.

Today's corporates are looking to optimise and automate such workflows, but implementation is often hindered by four main limiting factors:

1. Lack of possibility to integrate the large number of solutions needed

To automate a process, a connection between systems or work environments is required. Creating this connection and integrating it into a process allows for actions to be performed in case of certain triggers (e.g., an incoming transaction), and for initiation of operations (e.g., initiating a payment). Without the availability of these connections, organisations are required to either perform these steps manually or to create a connection or workflow themselves. ERP and TMS solutions already cater for a substantial amount of automation, focusing on providing fundamental treasury services such as accounting and generic reporting. However, especially for proprietary processes or other company-specific workflows, the options are limited and require significant IT investments.

2. Lack of industry best practices

Although organisations typically work towards similar high-level objectives, no two treasuries are the same. Internal and external factors contribute to the proliferation of a myriad of different workflows which treasurers use to solve their daily challenges. Therefore, to a large extent, many tasks lack a pre-defined business process. Due to the unique requirements of many organisations, a significant number of processes must be tailored to the organisation and require personalised solutions and workflows. These organisational differences are the key reason why it is so difficult for current systems such as TMS, ERP and other specialised Fintech applications to provide an automated one-size-fits-all solution.

3. Absence of dynamic products

The fast-changing business environment places increasing demands on corporate organisations, their business lines, and their treasury. The available architectures and software solutions are often ill-equipped to keep up with these changing needs. In addition, treasury departments are often focused on cost savings and are under constant pressure to meet reporting deadlines. Due to these reasons, existing solutions and processes must remain available and ideally should not be prone to frequent change. This hinders innovation, because existing solutions are kept in place for the sake of operations and because they 'do the job'.

4. Fragmented data sources

Due to dispersed operations and varying data sources, gathering all the necessary information is a complex and time-consuming challenge for organisations. Additionally, the evolution of compliance expectations is driving the need for further aggregate data from different levels within a corporate's finance department. Available solutions lack the flexibility to efficiently gather data from these sources. This limits visibility and consequently negatively impacts strategic decision-making.

Corporates face a fragmented landscape from both a technical and a geographical perspective. This fragmentation creates challenges and fosters inefficiency when performing daily tasks. Additionally, treasurers are confronted with limiting factors preventing them from optimising their workflows and processes, further perpetuating these inefficiencies. The next chapter describes a future state of API-enabled transaction banking services and outlines the potential benefits of API implementation for both banks and corporates.

3. NORTH STAR VISION

APIs offer an important technical component to enable the future of transaction banking, facilitating a real-time and fully integrated banking experience. This is illustrated in **Figure 4**.

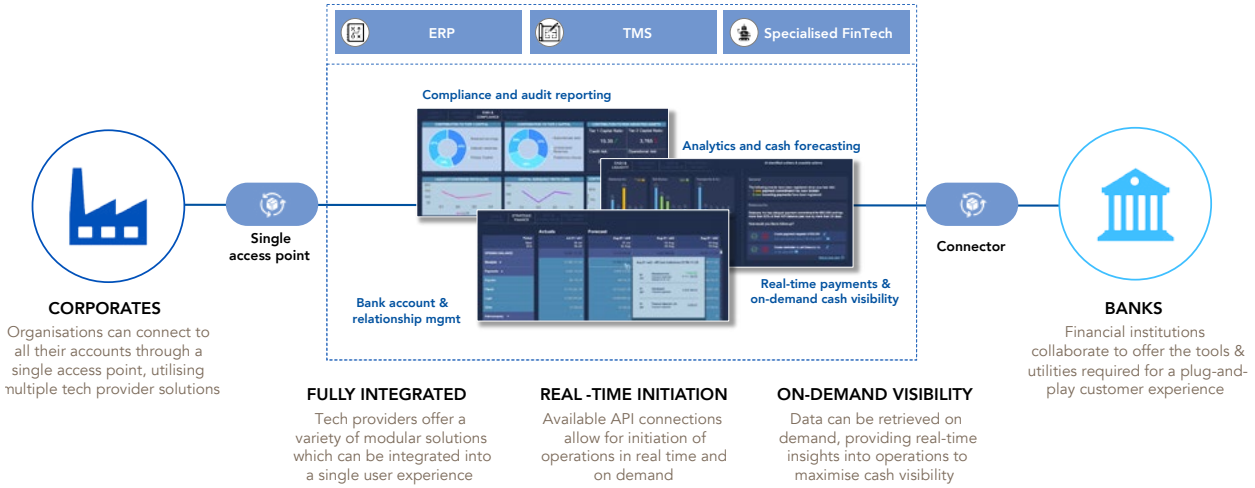
The transformation of traditional business and treasury processes into on-demand, real-time operations hold enormous potential. It provides treasurers with a chance to step back from repetitive manual tasks to drive improved finance-related strategic decision-making. Similarly, the business stakeholders within a corporate can improve the customer experience and service delivery. A broad number of operations can be significantly improved by creating flexible solutions which allow for integration, providing businesses and their technology providers with the tools needed to create harmonised solutions.

3.1 APIS AS COMPONENTS OF SEAMLESS, CENTRALISED OPERATIONS AND DIGITAL WORKFLOWS

In essence, APIs serve to facilitate data exchange between systems. They can be plugged into a variety of data sources and connect multiple back-office systems, depending on the use case. This aspect of flexible integration enables several possibilities for corporates: digitisation of workflows, centralisation of operations, efficient technical onboarding, and collaborative solutions.

An increasing number of technology providers are investing in solutions that capitalise on the benefits of APIs. This is evidenced by some of the frontrunning treasury and cash management service providers and new Fintech players that specialise in transaction banking and are utilising APIs as a key enabler for innovative

FIGURE 4 **NORTH STAR – A REAL-TIME AND INTEGRATED CORPORATE BANKING EXPERIENCE**



ource: INNOPAY analysis

solutions.[8] These actors offer products to enable connectivity to banks globally, via traditional channels (e.g., SWIFT, H2H) and increasingly through APIs published by banks directly, to allow for seamless data exchange. Depending on their exact setup and positioning, they often also enable connectivity with relevant ERP systems (e.g., SAP, Oracle, Microsoft Dynamics) to ensure the corporate client can keep working in their preferred environment.

Digitisation of workflows

Integrating capabilities for on-demand information and operations allows for process optimisation by automating the exchange of information in both new and existing workflows and processes. This creates significant savings potential by reducing the time needed for manual operations (as mentioned in Chapter 2.3). In addition, the overall process can be improved by eliminating human error, as well as by creating more time to think about how to support business operations and service delivery rather than the execution of certain tasks.

Central data model and processes

Centralisation consists of utilising the available API connections to embed banking services from multiple banks into the point of relevance. This means moving away from disparate solutions which require constant switching between environments, or operations that manually import the required data. Centralisation of data and operational processes enables significant efficiency gains and improves overall decision-making by allowing organisations to see the full picture of their operations or the potential implications of certain strategic decisions.

Efficient technical onboarding

API solutions are flexible and allow for relatively efficient adaptation in case of changes or updates. Organisations can start utilising the available APIs as soon as access has been granted and the necessary customer due diligence (including 'Know Your Customer') and contracting requirements are dealt with. As APIs are often developed on a one-to-many basis (i.e., one API serves multiple corporate clients), new or updated features can be added efficiently. Compared to traditional channels such as H2H, this is a major benefit that can significantly reduce the time to market and stimulate innovation.

Collaborative solutions

Through API solutions, banks and technology providers can pool their individual tools and platforms together, co-creating innovative solutions aimed at providing a seamless integrated experience. By partnering up with technology providers, API solutions can be integrated into environments that corporates use daily (e.g., ERP, TMS and specialised Fintech applications). Furthermore, this does not have to be limited to utilising banking data but can also be combined with a variety of other datasets to improve decision-making and enrich end customer experiences.

Through integration, financial products can be embedded into services at the point of relevance. Beyond the option of integration, APIs enable access to on-demand and real-time operations and data visibility. The most efficient way to enable integration and develop solutions is through partnerships. Combining these aspects

8 Hawser, A. (4 March 2022) Best Treasury and Cash Management System Providers 2022: Systems And Services. Global Finance Magazine. Available at: https://www.gfmag.com/magazine/march-2022/best-treasury-cash-management-providers-2022-systems-services

ensures organisations benefit from optimised services, allowing them to respond immediately from their respective workstations.

3.2 APIS ENABLE ON-DEMAND REAL-TIME INITIATION OF OPERATIONS AND DATA VISIBILITY

APIs provide corporates with on-demand and real-time initiation and data visibility functionalities allowing them to have more control over their banking services, optimise their internal processes while enabling an instant, up-to-date overview of their banking data and operations.

On-demand and real-time initiation

APIs can enable on-demand and real-time initiation of operations directly into the source from an environment of choice. In practice, this can be divided into two distinct capabilities.

First, this allows organisations to control their banking services in a self-service manner (if supported by the bank application) such as initiation of payments or electronic bank account management (e.g., updating limits or employee access controls).

Second, the availability of these operations and the ability to integrate them allows for the automation of processes (e.g., when onboarding a new employee, or automatically assigning the correct access rights to all individual bank accounts). For operations like these – and especially for simple, tedious tasks – automation can play a major role in process improvements.

On-demand and real-time data visibility

APIs can provide organisations with real-time visibility of their operations and banking data, facilitating the capability to retrieve data on demand for up-to-date insights. Treasurers see the value of APIs primarily in liquidity optimisation and risk management, as relying on prior day reporting data no longer makes sense in certain business areas. In practice, on-demand and real-time data visibility results in three key changes for the corporate transaction banking experience.

First, the capability to retrieve up-to-date insights creates an opportunity to set up data-driven decision-making processes in which new insights (e.g., an incoming transaction) can be used to trigger certain responses and initiate certain downstream business processes (e.g., shipment of an order).

Second, access to a continuous flow of up-to-date information allows for the improvement of short-term forecasting models. These produce new insights which are generated beyond the scope of intraday or end-of-day statements, while improving the treasurer's risk management capabilities.

Third, by consolidating access to this information and embedding this into a centralised solution, visibility into cash and liquidity can significantly be improved. This minimises potential blind spots and helps to identify areas of concern or opportunities to maximise results.

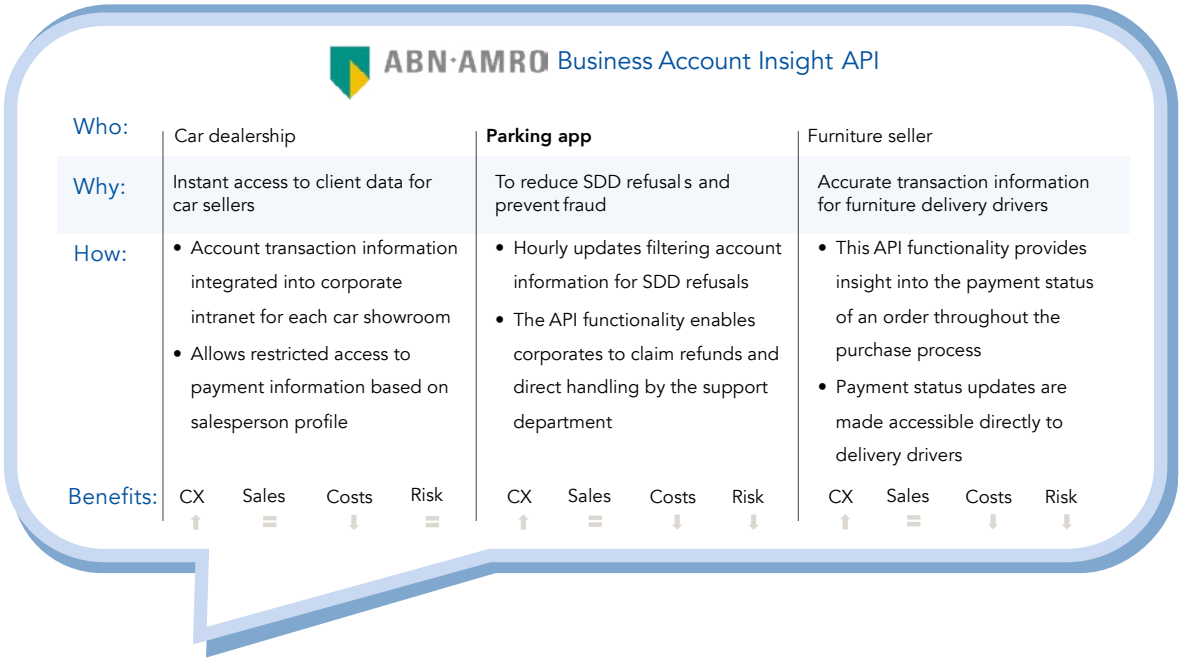
3.3 API BENEFITS EXTEND BEYOND JUST THE TREASURY FUNCTION

Previous sections have discussed the 'North star' vision of API-enabled treasury and the ability of APIs to improve treasurers' daily work. However, it is important to stress that APIs also have wider applications in business and product development contexts[9]. As shown in **Figure 5**, API-enabled processes contribute to more streamlined business processes in B2B2X service delivery models. APIs can enable corporates to implement real-time payment information into various layers of their operations, including front-office operations. For example, an account information API can be used to keep front-office employees up to date on client payments, refusals, and refunds. By streamlining these business processes, the corporate can save on additional business costs (e.g., by releasing shipments to shorten working capital cycles), limit fraud, and provide customers with a better user experience.

The real-time capabilities of APIs serve as an opportunity for corporates to restructure their business by strategically transforming and digitising internal processes in cooperation with treasury. This process allows corporates to reorganise their banking connections, optimise their internal processes and apply new functionalities to various levels of the business.

9 Euro Banking Association (11 May 2015), Opinion Paper on exploring the Digital Customer Services Interface (DCSI). Available at: https://www.abe-eba.eu/media/azure/production/1524/exploring-the-digital-customer-services-interface.pdf

FIGURE 5 **SELECTED FRONT-OFFICE-ORIENTED API USE CASES BY ABN AMRO**



Source: INNOPAY analysis

Furthermore, given customers' rising expectations for real-time functionalities, API adoption is progressively expanding towards front-office activities and services. APIs enable new products to be created or existing ones to be enhanced with real-time and on-demand functionalities, making operations more efficient for the business, and enabling a seamless experience for end customers.

3.4 KEY VALUE DRIVERS FOR TRANSACTION BANKS TO SUPPORT CORPORATES IN WORKING TOWARDS THEIR NORTH STAR VISION

Corporates and their technology providers are not the only ones who can benefit from the APIs provided by their banking partners. For banks, an increased focus on APIs to support corporates in their journey towards the north star vision presents the opportunity to increase revenues, reduce costs and strengthen their market position (illustrated in **Figure 6**).

Firstly, using APIs as technical enablers to accessing data can generate additional revenue for banks. Although direct monetisation of APIs is currently still in the early stages (as APIs are typically being offered through a freemium model), indirect revenue benefits must not be overlooked. In particular, frontrunning transaction banks with extensive API offerings are becoming increasingly attractive for corporates (this is discussed further in Chapter 4.1). In addition, releasing new, value-adding API propositions will allow banks to move along the value chain, closer to their corporate clients. This is expected to positively contribute to retention of existing clients and increased share of wallet.

Secondly, cost benefits can be realised by moving away from traditional channels as the main solution. Challenger banks leverage their internal API capabilities to offer API services to their clients. Additionally, as these solutions are typically offered on a one-to-many basis, banks can benefit from significant efficiency gains thanks to not having to develop or set up their own lengthy and labour-intensive processes (e.g., when enabling proprietary H2H solutions).

EXAMPLE: FRONT-OFFICE USE OF APIS

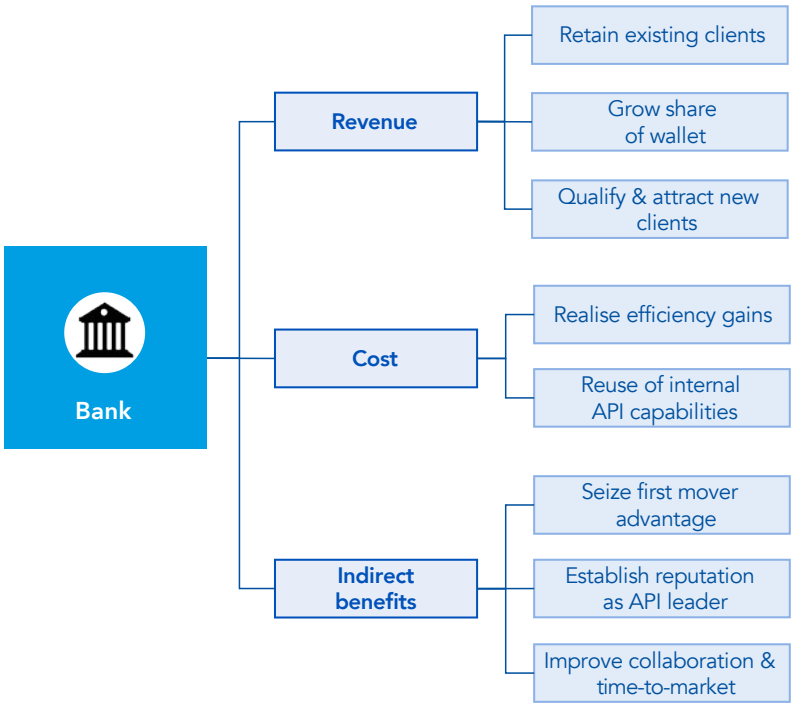
In response to market changes, ABN-AMRO has developed an API called Business Account Insight. This allows businesses to benefit from improved insights and real-time information when managing orders, refunds, and deliveries to clients, and is supporting several use cases requested by its corporate clients.

For example, a car dealership uses the ABN-AMRO Business Account Insight API to provide client payment and transaction information to car sellers in each of its showrooms. A parking app uses this API to track and handle payment refusals, validate refunds, and effectively limit fraudulent use of its parking spaces. A furniture seller has automated the gathering of payment information and retrieves data every 20 minutes. This is then processed automatically in the company's accountancy application, allowing delivery drivers to see the relevant customer's payment status. Additionally, the Business Account Insight API supports the automatic sending of a payment confirmation as soon as the amount is paid in full, improving both the employee experience and the end customer experience.

Lastly, over time, investments in APIs will lead to indirect benefits stemming from new insights and connections with relevant partners. Ensuring that the developed APIs closely align with the banking needs of corporates and their treasurers and improving time-to-market through collaborative efforts with technology providers.

Ultimately, by combining integration and access to on-demand, real-time data and operations together, organisations can start experiencing some of the benefits listed above. However, APIs are merely the pieces of the puzzle. Organisations, technology providers and banks will be required to collaborate in order to assemble the pieces into solutions that fit corporate needs. The next chapter describes the current API market developments in the context of this future vision of transaction banking.

FIGURE 6 **API VALUE DRIVERS FOR FINANCIAL INSTITUTIONS**



4. API MARKET DEVELOPMENTS

Some signs of the future vision of transaction banking can already be seen in the current API market developments and today's use cases and success stories shine a light on the growing interest in the adoption of APIs. Three observations are relevant to highlight:

- There is an observable growing interest in APIs amongst all key market actors.
- APIs are becoming increasingly capable of helping corporates fulfil a variety of financial tasks and address their needs.
- APIs already enable new use cases with added value creation.[10]

4.1 GROWING INTEREST IN API ADOPTION

Current market developments highlight a growing interest in the development and adoption of APIs to streamline existing corporate processes and to take advantage of new opportunities.

Organisations are increasingly incorporating APIs into their processes and tend to favour working with banks that have a rich API portfolio. The potential benefits of APIs are becoming increasingly understood across the corporate landscape, driving interest in adoption.[11] This can be explained by several factors. The macro-economic drivers currently create a volatile environment and thus a continuous need for increased visibility. APIs can meet this need. Additionally, the growing interest in API adoption is a logical consequence of the pressure to respond to higher customer expectations. Corporates and their treasuries are looking for a way to increase efficiency, and API adoption could be a viable solution in specific use cases. Lastly, the regulatory developments related to a revision of PSD2, the focus on digital services and markets included within the Digital Agenda of the European Commission and Open Finance are still ongoing and could drive an open data economy enabled by APIs in the future, further fuelling API developments.

Growing interest from corporates is met with an expansion of API offerings by banks. Frontrunning banks are willing to invest in API technology and expand their offerings to address evolving corporate demands and needs. This enables banks to retain and capture more clients and create an edge over their competitors. Banks can cooperate with corporates to develop specific functionalities in line with their needs and therefore strengthen their client relations.

Integration between banks and corporates is becoming more extensively facilitated by leading TMS and ERP service providers who have started to leverage APIs to provide improved connectivity

10 Essaides, N., DeGraw, B. (November 2021). Why Treasurers Should Care About Bank APIs. The Hackett Group, Management Issue November 2021. Available at: https://explore.finlync.com/resources/hackett-research-202?lx=FFuQMa&lb-mode=preview#page=1

11 According to the result of the 2022 Treasury Insight EACT Survey, 36% of participants have designated APIs as the innovation currently being used the most by treasurers or that they intend to use the most in the next 12 months, coming only second to data analytics. Additionally, according to the 2020 DBS Digital Treasurer Survey Report, the proportion of businesses using APIs in APAC has jumped from 37% in 2019 to 48% in 2020, highlighting a clear trend in API adoption among corporates.

and flexible solutions.[6] These technology providers focus on API aggregation to develop an easily accessible front-end experience for corporates. This enables corporates to use APIs in their systems of choice.

Moreover, initiatives such as the SWIFT API transaction management platform (as shown in **Figure 7**)[12] aim to transform the systems currently in use and enable plug-and-play capabilities.

The growing interest in APIs in the transaction banking landscape points towards a demand for new functionalities and solutions offered by this technology. Furthermore, it reflects a change in corporates' needs, some of which now can be met by API solutions.

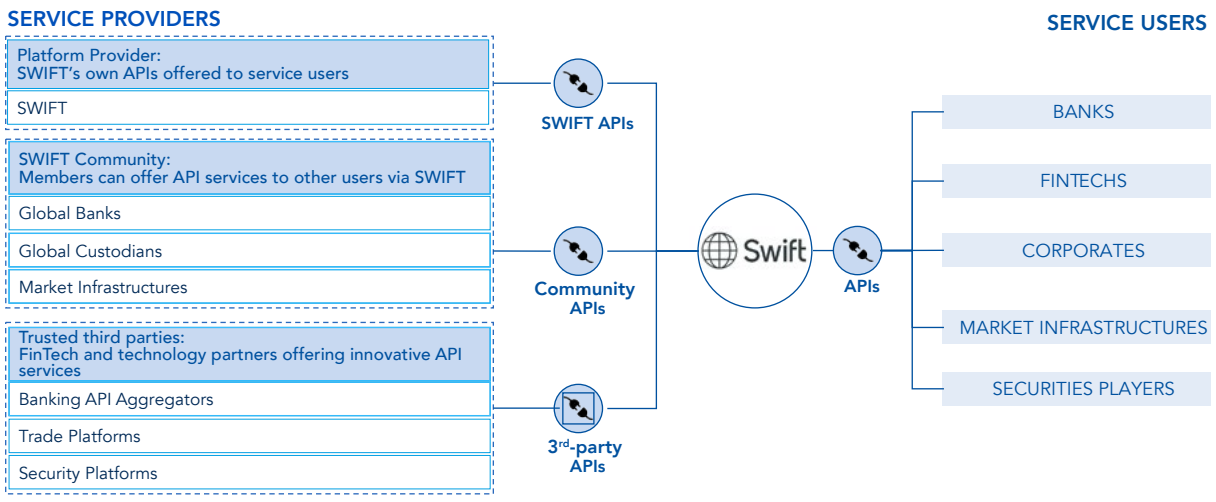
12 Realising the power of APIs in financial services (2021). SWIFT. Available at: https://www.swift.com/news-events/news/realising-power-apis-financial-services

4.2 FUNCTIONALITIES OF TRANSACTION BANKING APIS ARE INCREASING AND EXTENDING

To support corporate organisations, transaction banks are developing an increasing variety of API solutions tailored to their needs. These solutions can be divided into nine categories, as shown in **Figure 8**.

Unsurprisingly, many corporate banking APIs focus on providing core banking capabilities such as payments and reporting. However, the types of available API functionalities are rapidly extending towards other products and services such as foreign exchange, investments and securities, lending and more. These API functionalities enable organisations and technology providers to easily embed transaction banking services in a centralised manner at the point of relevance. The speed at which the available

FIGURE 7 **SWIFT PLATFORM OVERVIEW.**



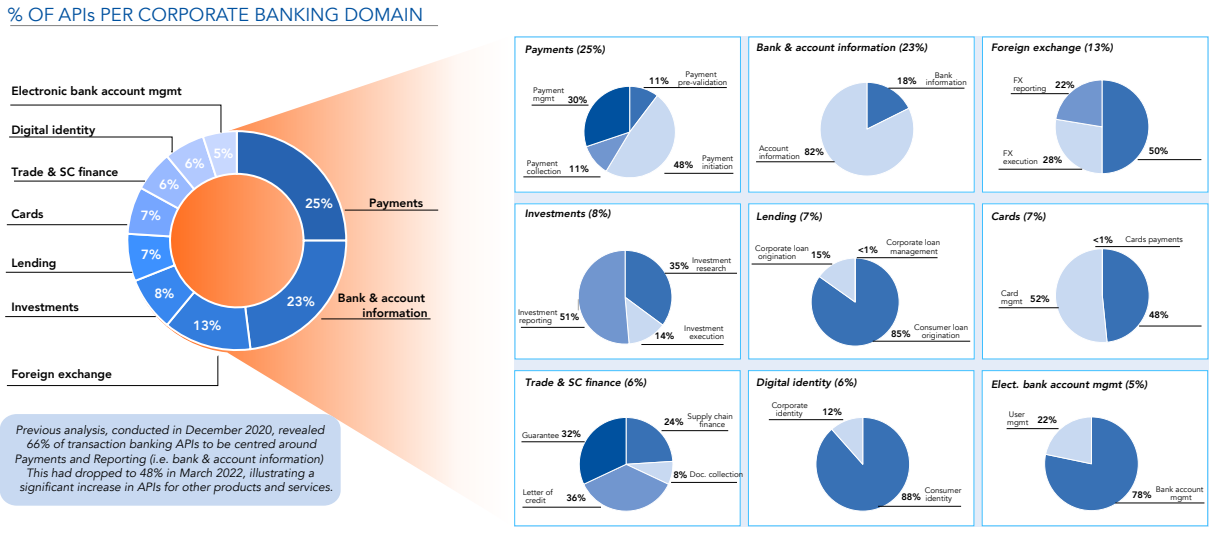
Source: INNOPAY analysis based on SWIFT documentation

API functionalities are adopted varies greatly between functionalities and, to a large extent, depends on the readiness of organisations and their technology providers. Furthermore, new API use cases are continuously being developed and the full extent of their future adoption across the corporate landscape is yet to be determined.

4.3 APIS ENABLE NEW USE CASES AND ADDED-VALUE CREATION

Based on the available APIs, a variety of use cases are emerging across the transaction banking market. Additionally, these use cases emphasise some of the areas with which corporates struggle the most. The use cases listed in **Table 1** are examples of how APIs can optimise existing processes for corporates and provide them with integrated and instant connectivity to their financial services. Furthermore, many of them stem from collaborative partnerships between corporates and banks. In these cases, both parties work together on designing the API solution to ensure it suits the corporate's needs (treasury and/or business needs, depending on the use case).

FIGURE 8 **BREAKDOWN OF API FUNCTIONALITIES SHOWING HOW THE FOCUS IS MOVING BEYOND PAYMENTS & REPORTING.**



Source: INNOPAY analysis, Open Banking Monitor (March 2022)

TABLE 1: **SELECTED API-PROCESS-OPTIMISATION USE CASES FROM FRONTRUNNING BANKS**

#	Use Case	Type of API	Owner	Description of solution
			B2B	
1	**Business account payments** 	**Payments**	ABN·AMRO	**Business Account Payment API** • Complete corporate payment suite, facilitating integration of all payment types into ERP, TMS & specialised Fintech tools • Solution is offered in combination with business account information APIs
2	**Payments inbound tracking** 	**Bank & account information**	SWIFT	**Querying for incoming transactions & real-time status** • Inbound tracking is a corporate service that provides insights into incoming payments • The API functionality enables corporates to query for incoming transactions and real-time status of transactions
3	**Multi-bank reporting** 	**Bank & account information**	JPMorgan Chase & Co.	**On-demand and real-time multi-bank reporting** • Multi-bank reporting is a business service that retrieves on-demand and real-time balances from multiple banks • With consent of the business, connectivity is established by the reporting bank to the account-holding bank's APIs
4	**Treasury administration** 	**Electronic bank account management**	JPMorgan Chase & Co.	**Authorisation and access management for treasury-as-a-service** • Treasury administration APIs enable automated and streamlined entitlement management • APIs provide real-time reporting, oversight of bank accounts and user administration for product entitlements
5	**Virtual accounts creation** 	**Trade & SC finance**	citi	**Creating virtual accounts** • Virtual account solution allows (institutional) clients to segregate their balances under a single physical account • Clients are allowed to individually view transaction activity, manage online banking entitlements and generate virtual account statements

6	**Foreign exchange trade** 	**Foreign exchange**	ABN·AMRO	**Providing real-time foreign exchange rates and conversion swaps** • The FX trade API offers the opportunity to receive real-time foreign exchange rates and initiate currency conversions • The API enables retrieval of information on the status of made trades and micro-hedging possibilities
7	**Custody FX approval status** 	**Foreign exchange**	Deutsche Bank	**Automating pre-trade validations** • FX digital workflow solution automates pre-trade validations and checks of real-time balances that are necessary with restricted currency markets
8	**Get holdings** 	**Investments**	BNP PARIBAS	**Securities accounts holdings** • Provides end-of-day positions for a dedicated portfolio or for a given financial instrument • May be used for position reconciliation purposes and/or to check the available position before making an investment/ trading decision
9	**Trade working capital** 	**Lending**	HSBC	**Working capital applications** • Allow clients to draw finance directly from their channel of choice such as an ERP/accounting platform • Clients can also check the latest status and further details of these loans such as the due date for repayment
10	**KYC company data** 	**Digital identity**	ERSTE Bank	**Know Your Customer - organisation** • Provides detailed information regarding a particular company and its owner to third party if owner (identified by access token) is known to bank
11	**Customer validation** 	**Digital identity**	Deutsche Bank	**Customer check & customer solvency** • Receives and verifies given personal information against basic personal information from the customer's bank account • Allows check of creditworthiness based on customer's transactions and account data
12	**Card applications** 	**Cards**	DBS	**Corporate cards** • Enables a corporate's employees to apply for a new debit card – initiating the account opening and application submission processes

B2B2B				
13	**Instant pay-out merchants** 	**Payments**	Deutsche Bank	**Initiating instant payment via mobile point-of-sale (POS)** • Instant payment solution that supports migration of pay-outs to merchants from SEPA classic to SEPA Instant Scheme (SCT Inst) • The solution allows point-of-sale providers to expedite the settlement timeline for their EUR merchants whose beneficiary banks are connected to the SCT Inst scheme
14	**Guarantees** 	**Trade & Supply Chain finance**	HSBC	**Expanding guarantee network** • New Bank Guarantee API enables financial partner institutions to seamlessly offer the bank's network as an extension of their own
15	**Virtual card management** 	**Cards**	citi	**Virtual cards** • Makes it possible to create and manage virtual cards and get VCA transaction details • Makes it possible to create and manage virtual cards, view transactions, customise and monitor credit limits • Allows automation of virtual card issuance and delivery, e.g., to suppliers/ employees.
B2B2C				
16	**Embedded payments** 	**Payments**	Deutsche Bank	**Payment initiation & management** • Integrates API payment solutions directly in respective channels to receive client funds directly • Manages payment operations such as cancelling, initiating a refund, or retrieving payment status
17	**Embedded loan offerings** 	**Lending**	COMMERZBANK	• Consumer loans • Enables creation of loan offers after entering relevant loan details as well as generation/downloading of loan application documents • Supports uploading the documents and requesting the status of the loan application or continuing with finalisation of the request

Although all cases provide integration opportunities and access to a range of real-time and on-demand data, and operations, they differ in terms of 'how' they are offered. Three types of offerings can be identified:

- **B2B use cases** make up the majority of API use cases and focus on optimising the corporates' internal treasury operations (e.g., embedding payments, reporting and other capabilities) as well as improving the business operations and customer experience.

- **B2B2B use cases** connect organisations with their business clients and allow for faster data exchange and more flexibility (e.g., easier onboarding, instant pay-outs, virtual card management).

- **B2B2C use cases** support connections between businesses and retail clients in financial operations (e.g., embedded payments and loan offerings).

Although the number of API use cases continues to grow, ensuring widespread adoption is still a challenging task due to a variety of factors. The following section discusses the main obstacles that stand in the way of APIs becoming the gold standard in the transaction banking landscape.

5. OBSTACLES AND CHALLENGES SLOWING DOWN API ADOPTION

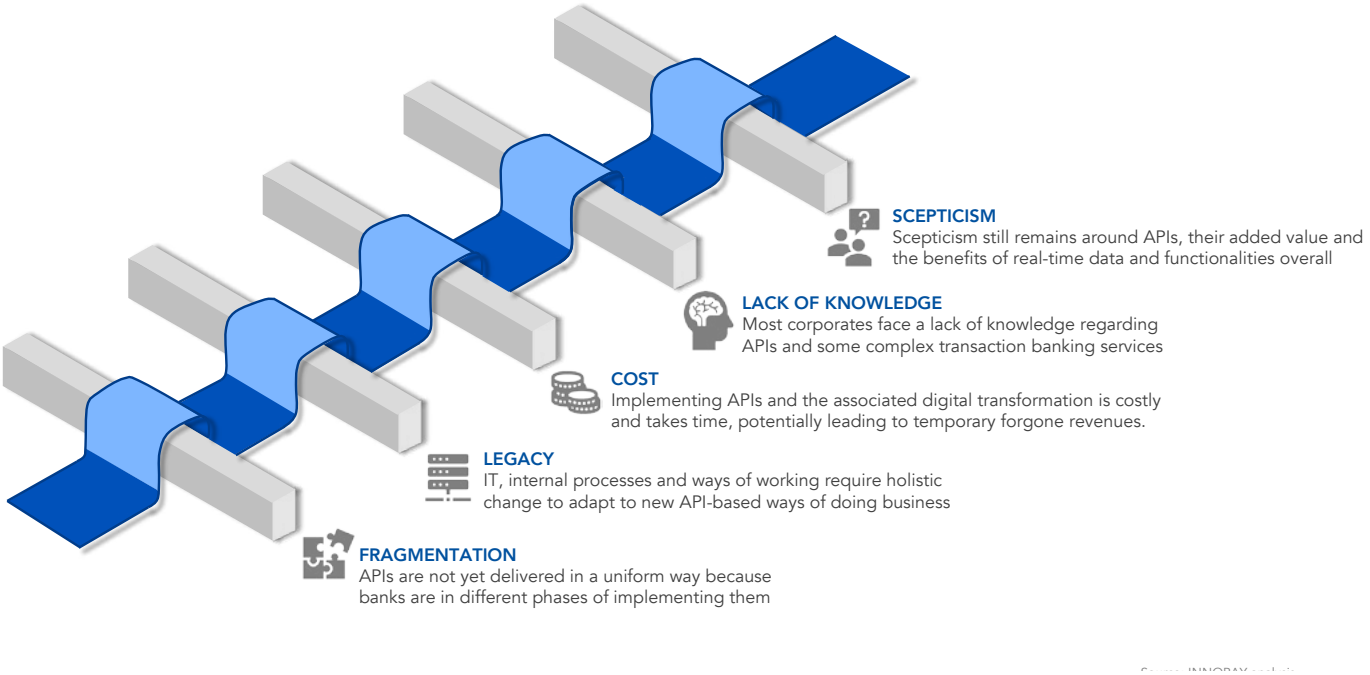
Comparing the API market developments with the 'North Star' vision described above reveals that the industry still has some way to go. Widespread adoption of APIs in the corporate landscape is proving to be challenging because several factors are impeding the momentum with which APIs are developed, integrated and put to work at scale across corporates, technology providers and banks.[13] As shown in **Figure 9**, there are five main obstacles of API adoption: fragmentation of API solutions, existing legacy solutions, associated costs, organisational lack of knowledge and scepticism regarding the added value of APIs in the transaction banking landscape.

13 Euro Banking Association (EBA, May 2016) Understanding the business relevance of Open APIs and Open Banking for banks. EBA Working Group on Electronic Alternative Payments. Available at: https://thepaypers.com/reports/eba-understanding-the-business-relevance-of-open-apis-and-open-banking-for-banks/r765184

5.1 FRAGMENTATION

As discussed in Chapter 2, corporate organisations often utilise multiple banking partners across various geographical regions. As a result, corporates are dealing with a fragmented user experience and inefficient workflows. Adding to this challenge is the fact that banks are at different stages of API development across the globe. While some banks have recently started to

FIGURE 9 **MAIN OBSTACLES TO API ADOPTION.**



invest in API strategies and deployment, others are waiting to see how the market will develop. Due to these differences, an organisation may only be able to optimise parts of its operations using APIs, depending on its banking partners and the respective API use case.

Additionally, due to a lack of standardisation, frontrunning banks have taken it upon themselves to cater for the rising demands of organisations by developing their own proprietary API solutions. Without a set of standards for data formats, client onboarding, authorisation mechanisms and more, the available API solutions can differ significantly. This trend creates substantial challenges in terms of integrating connections to multiple banks.

A growing number of technology providers are addressing this standardisation challenge by offering aggregation services which streamline the available APIs into a more coherent solution. These technology providers provide an intermediate answer to this challenge, helping the API market to mature and innovate. However, in the long run, some form of standardisation will be required to facilitate the widespread adoption of APIs, creating a direct plug-and-play experience without the necessity for additional layers in between. To achieve easier connectivity and integration of systems, it is necessary for the relevant stakeholders to participate in standardisation initiatives to help shape the building blocks of API connectivity and design corporate solutions that will allow interoperability between systems in the future.

5.2 LEGACY

Legacy IT solutions and associated internal processes are a second obstacle slowing down API adoption. These require a holistic change to support some of the potential benefits enabled by APIs. As discussed in chapter 2, corporates mostly rely on traditional file-based transfer solutions (e.g., SWIFT, EBICS or H2H) when communicating with their transaction banks. These solutions typically operate on fixed time intervals, such as when retrieving intraday or end-of-day statements. [14] Due to this, many of the existing solutions and processes used by corporate treasuries are based on this limitation. Many ERP solutions come with pre-programmed time intervals to process received statements and must be updated to be able to request these statements on demand.

In addition, the process of checking the updated statements is typically incorporated into a treasurer's daily activities at fixed moments. While this does not only apply to statements, it highlights that simply making the data available on demand and in real time will not lead to major benefits. In fact, if not accompanied by workflow changes, working with old processes will reveal process inefficiencies and make a treasurer's work less predictable. It will then take time for treasuries to adjust their way of working to account for the on-demand operations and adapt the real-time insights to their advantage.

14 Euro Banking Association (EBA, 2019) How banks can harness technology for the benefit of the corporate liquidity management ecosystem. Available at: https://www.abe-eba.eu/thought-leadership-innovation/liquidity-management-working-group/management-summary-how-banks-can-harness-technology-for-the-benefit-of-the-corporate-liquidity-management-ecosystem/

Legacy processes from banks also create difficulties when onboarding corporates for new API products. Banks require new corporate customers to go through a strict KYC process, plus corporates need to go through product onboarding and contracting for each new product. This can be a cumbersome experience that slows down the API adoption process.

As the role of treasurers is evolving within businesses, their tools and processes also need to be improved to address their new needs and cater for their changing tasks to unlock their full potential. To support this evolution, ERP and TMS solutions used by corporates need to be able to support real-time functionalities. Furthermore, as mentioned in Chapter 3.1, integration is one of the key benefits enabled through APIs. It is necessary to embed the information and operations into the point of relevance for corporate treasurers. This calls for existing solutions and processes to be changed or adapted, which is not always easy or can require significant investment.

5.3 COST

The third factor is the cost to the business of implementing and upkeeping the APIs and the associated digital transformation. Implementing APIs is much like designing a new product; it requires a holistic overview of the business and the underlying structural changes. Like any other products, APIs have lifecycles that need to be maintained, updated, and continuously adapted depending on corporate needs. This can be cost-intensive, and so too can replacing the existing IT infrastructure with new solutions that will support new real-time functionalities. New solutions and functionalities take time to design, implement and adapt to, both by treasuries and the business as a whole. Meanwhile, implementing new solutions might disrupt ongoing operations and put reporting deadlines or other key financial activities under threat. Furthermore, businesses need to account for the costs of adopting new solutions utilising the services offered by tech providers.

In view of the various business models and monetisation methods, it is important to note that the cost side of API development and adoption will be experienced differently by banks and corporates, depending on the stage of their IT infrastructure and processes. API functionalities are not exhaustive so it will not be possible to switch off all the legacy infrastructure, making the use of APIs an added cost in the short to medium term. However, despite requiring a large investment upfront, APIs limit costs in the long term by eliminating time-consuming processes caused by traditional connectivity channels and associated fees (e.g., H2H file delivery costs, and bank portal fees, etc.). They also provide ways of generating additional revenue streams for corporates through increased productivity and better allocation of resources. Additionally, banks enabling API-based real-time and on-demand connectivity allow corporate customers to seamlessly interact with their services, improving the customer experience and positioning the business as innovative.

5.4 LACK OF KNOWLEDGE

The fourth obstacle is lack of knowledge, often due to organisational debt or the complexity of setting up transaction banking services using APIs. Although APIs are certainly nothing new, they operate in a vastly different way than the traditional channels available and used at scale in transaction banking today. Many corporates typically rely on third-party providers for their banking connections and have built up organisational debt that results in a lack of in-house IT resources and knowledge. Furthermore, the importance of treasury department's role leads them to be more risk averse and rarely become early adopters, preferring to rely on widely tested and trusted solutions. Unlike traditional channels, there are no widely accepted best practices in terms of API security. In turn, this leads to uncertainty and lack of know-how about implementing new technologies and APIs into existing systems and processes or designing new API-enabled products that would benefit the business.

Uncertainty surrounding the newness of API use in the transaction banking landscape is sure to fade over time as adoption increases and new API use cases emerge. Furthermore, the lack of necessary technical and product development knowledge can be eased with appropriate IT training (e.g., workshops, hiring experts or agile coaches) to support the digital transformation of the business and provide treasurers with the tools to use APIs to accelerate the growth of their business and its services.

5.5 SCEPTICISM ABOUT ADDED VALUE

Scepticism surrounding APIs goes beyond implementation and lack of knowledge. Corporates are also concerned about the added value achieved through APIs and the overall benefits of real-time data and functionalities. Corporate treasuries are reluctant to disrupt ongoing processes and daily operations, given their critical function within the business. Having to holistically restructure their operating model contributes to doubts about real-life improvements generated by APIs when compared to the tried-and-tested processes that are currently in use. In today's fragmented landscape, only certain banks offer API connectivity and do so in various ways and using different standards. This awareness that not all banks and functions are currently accessible using APIs contributes to treasurers' scepticism about fully restructuring their tools and workflows to adopt them.

For corporates to be able to truly unlock the added value of APIs, they need to be able to access most of their banking services and connections through APIs. This is not always possible at the current stage of bank API adoption, not to mention in view of the limited offerings available to corporates. APIs are currently available through bank developer portals. These are mostly targeted towards developers, requiring a more in-depth level of IT knowledge than that of an average corporate treasury.[15] To facilitate API adoption for corporates, banks and technology providers need to make it easier for treasurers to find and identify APIs that would suit their needs. Furthermore, a more comprehensive offering of API connectivity options from most banks would provide treasurers with a stronger business case for digital transformation and API adoption to unlock their added value for specific corporate needs and goals.

Considering the above challenges and other external factors that may emerge along the path to real-time treasury, it is important to define a set of conditions that need to be met to fully realise the potential of APIs in the corporate landscape. The next chapter will outline the most important success factors and key considerations for banks, corporates and technology providers interested in adopting APIs.

15 Cortet, M., Tsovilis, J., Blankert, M. (27 July 2020) INNOPAY Open Banking Monitor increasing API focus business and community context. INNOPAY Blog. Available at: https://www.innopay.com/en/publications/innopay-open-banking-monitor-increasing-api-focus-business-and-community-context

6. SUCCESS FACTORS AND KEY CONSIDERATIONS TO DRIVE API ADOPTION

The potential benefits and challenges of APIs in the corporate transaction banking landscape have been outlined throughout this report. However, to fully capitalise on the possibilities enabled by APIs it is necessary to further consider the steps and factors contributing to their successful implementation. Banks, technology providers and corporates should combine their efforts, while bearing in mind certain key considerations and success factors for API adoption. While banks should seek to provide added value to maximise adoption, technology providers need to focus on providing a seamless experience to enable embedded experiences for corporates. Finally, corporates themselves should place emphasis on identifying the key areas in which APIs can substantially improve their business in treasury and beyond.

6.1 BANKS NEED TO PROVIDE ADDED VALUE TO MAXIMISE ADOPTION

Banks can maximise the benefits from API integrations when they are adopted at scale. This can be realised by providing APIs that deliver added value to corporate clients, and that are tailored to their specific needs. The added value for corporates typically lies in an improvement of the experience internally (B2B) and/or for its customers (B2B2X), thus supporting its sales. The value can also lie in a reduction of costs or risks.

Banks may pursue different routes to making their operating model fit for Open Banking[16], but there are four key considerations banks need to pay attention to when shaping their API offering: plug-and-play, collaboration and partnerships, flexible but secure solutions, and monitoring standardisation.

6.1.1 Plug-and-play

Plug-and-play refers to creating capabilities for easy and seamless technical integration via APIs. Plug-and-play APIs can be 'plugged' into any back-end system or solution and used immediately, adapting to different use cases, and enabling new possibilities. When banks decide to implement APIs, they should consider making them as easy to integrate into a client's system of choice and as intuitive to use as possible. In addition to technical practicalities, commercial and legal onboarding are also pivotal for a positive user experience and should therefore be convenient. The process steps required to enable usage should be transparent and efficient to provide a seamless experience.

16 Euro Banking Association (June 2021), "Ready or not? Gearing the bank operating model towards digital and Open Banking readiness". Available at: https://www.abe-eba.eu/thought-leadership-innovation/open-banking-working-group/

6.1.2 Collaboration and partnerships

API-enabled opportunities for collaboration and partnerships are the second key consideration banks must account for. Thanks to their integration capabilities, APIs allow multiple stakeholders to combine value propositions, thereby creating tailored solutions. Collaboration and interoperability are made simple by APIs, creating seamless data flows that unlock real benefits. Banks should consider partnering and collaborating with both corporates and technology providers.

Banks need to work closely with their corporate clients to determine their specific needs. This enables banks to build API solutions tailored to the corporate's individual requirements, contributing to the creation of new value and laying the foundation to effectively increase API adoption.

One example of collaboration is the partnership between DBS Bank and Singapore Airlines, which resulted in an instant refund API being implemented to streamline online ticket cancellation.[17] The refund API is directly integrated into the airline's website, enabling real-time refunds in the event of modified travel plans. Singapore Airlines also benefits from a daily transaction report providing a consolidated view via a Transaction Inquiry API.

In addition to corporates, technology providers need to be considered as partners. This type of partnership allows banks to increase their reach and presence by enabling them to further shape their API offering and integrate directly into their clients' systems of choice. For example, multiple banks have partnered with FinLync to facilitate real time functionality of ERP embedded native apps. **Figure 10** shows the assessment criteria that can help banks to make informed decisions about beneficial strategic partnerships with technology providers.

6.1.3 Flexibility and security

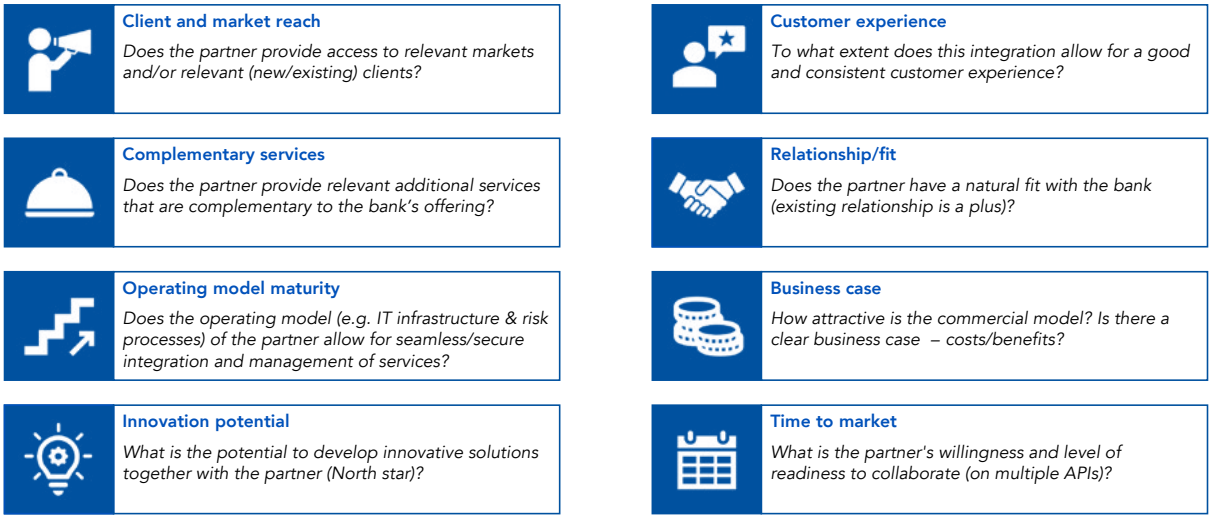
To successfully implement APIs, banks additionally need to place emphasis on providing flexible and secure solutions. APIs need to enable an efficient integration process into the client's solution of choice while maintaining security through the right controls. In essence, they must provide equally secure communications as established solutions.

The key is to design and configure security that meets corporates' needs. Corporates typically have individualised authentication and authorisation procedures, including multi-eye principles to execute transactions. These internal procedures must also be enabled with APIs.

As an additional security advantage, APIs can be configured to automatically detect fraudulent behaviour and suspicious financial movements, generating transaction-level alerts in real time, so that treasurers can react and intervene accordingly.

17 Singapore Airlines – Upgrading user experience through digital (2019). DBS. Available at: https://www.dbs.com.sg/corporate/research-and-insights/case-studies/singapore-airlines-case-study

FIGURE 10 **KEY SELECTION CRITERIA WHEN ASSESSING POTENTIAL STRATEGIC PARTNERSHIPS WITH TECHNOLOGY PROVIDERS.**



Source: INNOPAY analysis

6.1.4 Monitoring API standardisation

Banks also need to consider the monitoring of API standardisation initiatives as the basis for successful API implementation. Standards contribute to API implementation by ensuring a consistent experience for all users. This is a crucial consideration for driving adoption. Although banks are not leading the creation of API standards, they still need to keep a close eye on standardisation initiatives and align their solutions where applicable, as well as actively promoting their requirements if relevant.

6.2 TECHNOLOGY PROVIDERS MUST ENABLE A SEAMLESS FLOW AND EMBEDDED EXPERIENCE

Technology providers play an important role as connectivity facilitators between corporates and banks. When implementing APIs, technology providers should focus on lowering the entry barrier, providing easy-to-use banking services, and enabling the embedded real-time experience in their business operations.

6.2.1 Collaboration and Partnerships

Besides banks, technology providers themselves need to recognise the importance of collaboration when implementing APIs. This means they should work together with their banking partners to provide a more tailored service offering to their customers as well as capturing new clients and revenue streams. By collaborating with banks, tech providers can help to enable an easy and efficient onboarding experience for corporate clients.

Additionally, technology providers should stimulate and promote new API developments to expand the banks' API product offerings for potential corporate clients. This will not only enable the latter to improve the quality of their services, but also to consequently grow their customer base.

6.2.2 Translate data into insights

Technology providers should help transform data into actionable insights to implement APIs successfully. As mentioned previously, APIs facilitate data exchange. However, participants on each end of these exchanges only receive raw data material as the basis for making strategic decisions. To provide the most comprehensive offering and experience, technology providers should place greater importance on providing tools to translate data and capabilities into actionable insights. As an aggregator of multiple banks for corporates, technology providers are already in a position to provide consolidated dashboards with self-service business intelligence functionalities for treasuries, for example, as outlined in the section on the 'North Star' vision.

6.2.3 Flexible solutions for direct integration

The API services offered by technology providers should be able to integrate with a variety of corporate systems and applications, allowing direct integration for various departments. APIs need to be easy to use to enlarge the range of possible uses and lower the barrier to entry. Increased integration should also allow for granting all stakeholders access to real-time treasury services.

For example, Bellin (now part of Coupa) offers a 100% web-based TMS with a wide array of treasury integrations through a SaaS-based treasury solution. The web-based nature of the solution renders the system accessible to anyone within the corporate organisation, allowing flexible and seamless use. The solution can therefore be used by the most appropriate stakeholder for a specific task and adapt to different use cases. Additionally, it claims to provide very

flexible bank connectivity as it enables direct API connections where banks support it, but also allows communication elsewhere via other channels (e.g., SWIFT, EBICS). Such flexibility opens up possibilities for corporate clients to choose their connectivity methods, leading to greater efficiency. It also allows the banks who do not enable API connections to still engage with their corporate clients using this solution.

API connections must also offer corporates sufficient flexibility in the event of future system changes, such as a change of ERP or TMS provider.

6.2.4 Enable standardisation

The final key consideration for technology providers relates to their role in API standardisation. As previously stated, standards play an important role in API implementation because they simplify the integration process for corporates and promote a consistent developer experience. This is a crucial consideration for driving adoption. Providing a single access point into a simplified, consolidated multi-bank experience based on unified APIs is at the heart of technology providers' value offering. Through this aggregation, they can standardise multiple bank APIs for the corporate as a commercial service. This service eliminates the complexity of connecting and maintaining API connectivity with numerous banks.

6.3 CORPORATES NEED TO IDENTIFY WHERE APIS CAN ADD VALUE

Before implementing APIs in their treasury landscape, corporates need to carefully analyse their business processes regarding treasury and financial activities. From this holistic view, corporates can then identify use cases. API use cases should describe the purpose of using the API, the challenge the API solves or the opportunities it creates. The use case should also entail a high-level description of the interactions between the API application and the connected system(s). To set up a prioritised backlog, those use cases can be ranked according to which API-enabled benefits can add the most value and also which use cases would make the biggest contribution to the corporate's strategy. As the last step, to develop a business case for the prioritised API use cases, corporates should try to quantify the benefits and costs they will incur. The benefits typically relate to reduced costs, reduced risk, increased revenue, or increased efficiency, whereas relevant costs are the one-time implementation costs and the ongoing operational costs. This process is visualised in **Figure 11** below. Corporates can then set up the implementation for the validated use cases.

6.3.1 Holistic view of operations

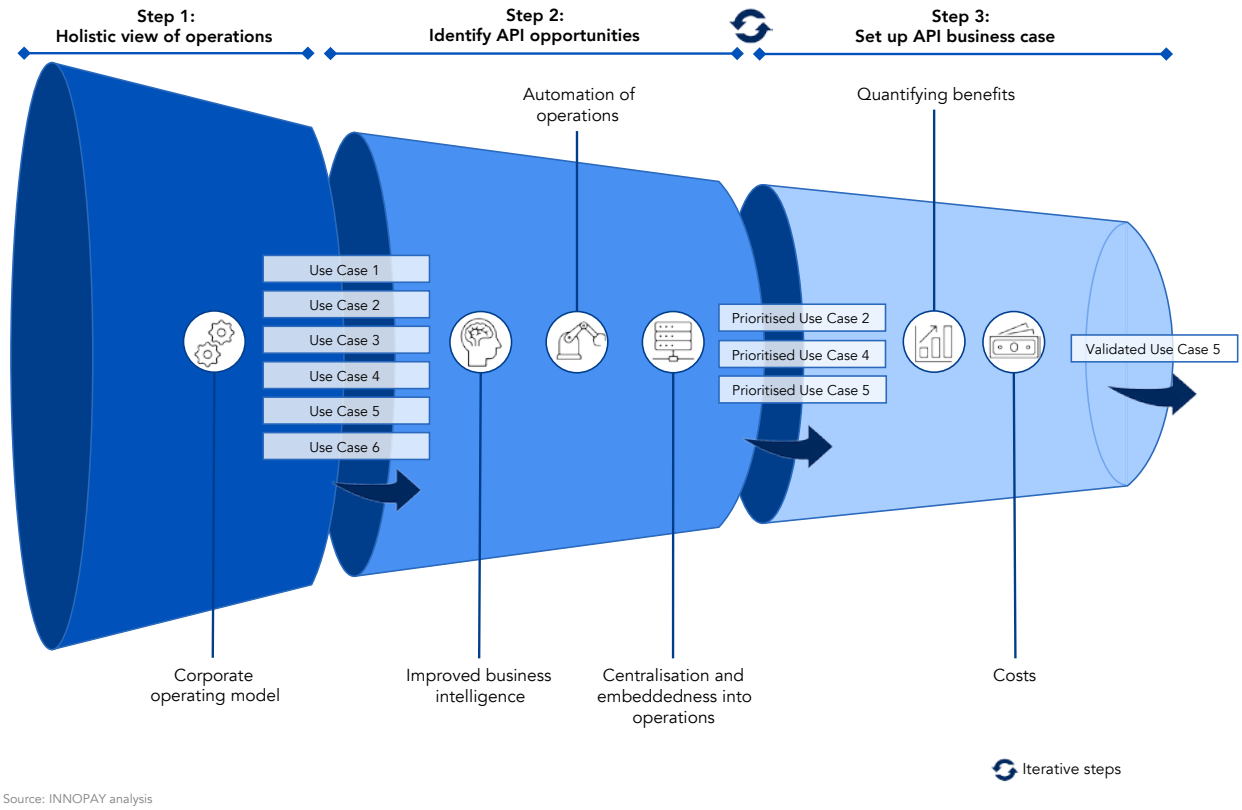
To understand where APIs will bring the most benefits, a corporate has to obtain a holistic view of its operating model, focusing on treasury and financial activities. This includes not only a full overview of the corporate's system landscape, but also of treasurers' processes and tasks. Having an overview of the business operations enables corporates to uncover channel breaks and other manual tasks and inefficiencies. APIs can then be considered as a way of improving processes in these key areas of concern.

In this step, corporates should also consider strategic treasury goals – such as targets for straight through processing (STP), number of payments initiated, parameters and frequencies for bank statement reports, and cash flow forecasting accuracy – to make it easier to prioritise potential API use cases later on.

6.3.2 Identify API opportunities

In the next step, corporates need to identify and prioritise potential business opportunities arising from the use of APIs. This relies on assessing the key pain points identified in the first holistic overview and the areas that could be improved by leveraging open API technology. As outlined in Chapter 3, APIs can create the most value around improvements related to better business intelligence, increased automation of operations and centralisation as well as embeddedness of

FIGURE 11 **API USE CASE FUNNEL – FROM IDENTIFICATION TO VALIDATION.**



Source: INNOPAY analysis

treasury operations. Corporates should therefore screen their operation with a special focus on these aspects to identify and prioritise the API use cases that will provide the best opportunities.

6.3.3 Develop API business case

APIs can increase efficiency and ultimately reduce costs. However, APIs can also generate costs associated with their deployment. The prioritised API use cases should therefore be validated by comparing the quantified benefits against the costs and risks.

Quantified benefits

Corporates need to try to estimate the monetary benefits of the API implementation. The key value drivers presented in Chapter 3 can be a starting point for this. Typically, the highest monetary benefits are achieved from cost savings through automation. However, improved risk management and decision-making (e.g., for cash and liquidity management) can also lead to substantial savings.

Costs

As outlined in Chapter 5.3, implementation costs vary between corporates based on their existing IT infrastructure. Besides the costs of changing the corporate systems, the costs of running and maintaining the API-enabled systems must also be considered. Similarly, the costs saved by replacing decommissioned systems with API solutions should be considered.

In addition to IT implementation and maintenance costs, the corporate business case should consider banks' and technology providers' monetisation models and pricing for the respective API services, e.g., monthly fees (per account), transaction fees per API call or hybrid models.

API PRIORITISATION PROCESS FOR BANKS AND TECHNOLOGY PROVIDERS

Process for banks

Similarly to corporates, banks should go through the process of initial API proposition identification and assessment, further validation internally and externally (with clients and partners), operationalisation and impact assessment, before defining the business case and roadmap. This API proposition funnel leads to a roadmap for implementation.

Process for technology providers

As an intermediary, technology providers find themselves in a different position. They can pursue a push and/or pull approach to shape their API proposition.

To be able to provide a comprehensive offering that can be 'pushed' to corporates, technology providers can follow banks' API propositions and aggregate as many APIs as necessary. In a 'pull' approach, technology providers can partner up with their corporate customers to understand their needs. They can then approach banks and offer to provide and implement certain API-enabled services based on those needs.

Furthermore, transitioning to 'real-time treasury' will impact the operating model and the way of working for treasurers. Employees will need to be guided towards new roles and activities to act on the newly available real-time and granular information. This could cause some disruption to operations and may require training efforts.

If the strategic value is deemed high enough, less positive business cases should not necessarily be a reason to decide not to pursue API integrations. Additionally, it is important to remember that costs for implementation and operational adjustments are likely to decrease as the corporate gains more experience with integrating APIs. This could support the rationale to pursue business cases that initially seem less positive. Corporates should use the business case to validate the identified prioritisations and revisit potential use cases for APIs as outlined in Figure 11. This should be an iterative process as part of treasurers' strategic role within the corporate.

7. CONCLUSION

A corporate treasury does not operate in a vacuum; it interacts with – and is supported by – a complex surrounding ecosystem. Transaction banking plays a crucial role within this ecosystem. As a result, transaction banks are continually innovating to enable various stakeholders within corporates – from finance and treasury to product, sales and customer service departments – to leverage industry developments.

One of these developments is API technology as an enabler for business and operating model change for corporates. No one can afford to get left behind in the rapidly evolving digital ecosystems that 'embed' financial data, products and services at the point of relevance. Therefore, it is time to look beyond the legacy way of working.

APIs – as a complement to traditional connectivity channels – have the potential to transform the way corporates consume products and services from their banks. APIs provide for a viable complementary solution by enabling real-time data accessibility to meet ever-evolving corporate needs in the digital era. This can ultimately result in more streamlined treasury operations and business processes that contribute to a seamless customer experience, cost efficiency and better risk management.

No bank or technology provider can realise these benefits at scale by working alone. Transaction banks and technology providers are actively co-developing API solutions to provide corporates with the tools and capabilities to address their needs in treasury operations and business process optimisation. As this report shows, it is not an easy task, and many obstacles still stand in the way. Nevertheless, by joining forces and combining strengths in partnerships between corporates, banks and technology providers alike, the full potential of APIs can be unlocked for all players in the ecosystem.

Keeping this in mind, it is important to stress that APIs alone are not the ultimate solution. To successfully adopt APIs, it is necessary to develop individual strategies, approaches and use cases that add value, while addressing operating model and business model adjustments along the way. Although there is no fail-safe strategy to implement APIs, this report has aimed to provide a starting point for API adoption by outlining the current developments, challenges, and collaborative initiatives to drive adoption at scale for corporates. Furthermore, it illustrates that API adoption is an iterative process that extends beyond the treasury department alone. It should start with a holistic overview of the business and then be gradually implemented across all its levels and departments.

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