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## API IN CORPORATE AND INSTITUTIONAL BANKING (APPLICATION PROGRAMMING INTERFACE IN CORPORATE AND INSTITUTIONAL BANKING)

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*Purpose:* article is devoted to API – one of the digital technology that is proactively developing in corporate and institutional banking on global financial market. *Discussion:* banking industry is attuned to the need to manage the challenges of economic uncertainty and are preparing for the rise in risk margins. The industry is making efforts to become leaner and more robust, and many large banks have partnered with fintechs to develop and expand their services but at the same time we can observe the active involvement in creation your own digitalized infrastructure. Due to this fact, I decided to conduct a deeper study and analyze financial innovation such as API and determine the current opportunities of the technology and experience of corporate and institutional clients who face API in daily business conduction in foreign and Russian banks. *Results:* i revealed that banks are trying to develop itself and find appropriate digital solutions to their business specific and API helps to simplify many banking operations. Active enhancement and implementation of this innovation lead to offer the diversity of technological tools for clients and make banks more competitive and profitable.

**Keywords:** Innovations and IT, information technology, digitalization of banking, institutional corporate banking, commercial banks and fintech integration, API and open banking.

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### Introduction

Commercial corporate and institutional banking plays a vital role in the wider industry's performance, accounting for around one third of total revenues. However, the segment has come under pressure in recent years, amid intensifying competition, technology, innovation, and weak performance in some markets [7].

Corporate banks face competitive headwinds. Fintechs are targeting

attractive links in the value chain, including payments, cash management, asset financing, and trade finance. Corporate segment remains key to the health of the wider industry [2]. Clients can access a more comprehensive range of products and services. Partnership with numerous players across sectors, including banks, non-bank financial institutions, fintechs, enterprises lead to introducing professional services in the business and using integrated solutions applicable to corporates and institutions [3].

One of the way to banking integration is API. A banking API is an interface through which a financial institution provides data about customers, accounts and transactions. This means that users of payment services are no longer solely dependent on the direct services offered by their own bank. They can make use of third party financial services, which, in turn, access the data required by the original bank via the banking API. The banking world did not invent the API. The term comes from the software industry and refers to an interface that allows two separate applications to communicate with each other and exchange data.

New bank integration needs are emerging as companies expand into new markets, consolidate information channels and achieve economies of scale through the centralization of treasury operations.[9] These evolving treasury needs are creating a demand for a global solution that simplifies bank integration and provides greater visibility, real-time access to information for decision making, and more control over transaction processing.

### **Foreign experience in the API application**

Banking-as-a-service platform (open banking API). Banks including BBVA, Citi, and DBS, are leveraging APIs to open data and services to third parties. In one example, BBVA allows third parties to retrieve business user balances and transactions in market-standard format. CitiConnect has processed millions of API calls for payment initiation and data inquiries. APIs connect ecosystem partners, organizations, and clients seamlessly, enabling the integration of capabilities and offering of new products and services across ecosystems. The future of corporate banking is likely to be characterized by ecosystem-like interactions, enabled by APIs and platforms built by clients, banks, and third party providers. Potential API use cases exist in areas such as trade finance, cross-border payments, transaction monitoring, and conducting other corporate deals [1].

Citi Bank created your own platform CitiConnect that allows clients to streamline your file exchange and messaging processes, reduce costs using automated processing, and expedite dispute resolutions associated with your cash management needs. No matter how client manages your treasury and financial information flows, Citi has the experience and technology expertise to meet unique needs—integrating banking execution and information with clients' enterprise-wide treasury management, Enterprise Resource Planning (ERP) and other cash management systems [14].

Application Programming Interface (API) is the primary entry point for business whether it is called from a company's own applications (Internal API) or

by client or business partner. API enables nimble interactions in digital ecosystems. API technology (Application Programming Interface) allows Citi to expose a menu of Treasury and Trade Solutions (TTS) products and services to clients anytime, anywhere through customized integration with Treasury Workstations (TWS), ERP platforms, or other online applications.

CitiConnect API Developer Portal accelerates implementation and go live faster by easily accessing the latest information and performing technical testing upfront. Online Repository is one place to access the latest documentation and information on APIs any time client need it. Sandbox Environment is the capability to test APIs even before accounts are available, resulting in higher quality releases and less rework in the end (for example, syndicated loans and credit scoring).<sup>1</sup>

APIs allow us to connect BBVA's functionalities with those of other companies, streamlining their processes, automating operations, eliminating barriers for clients and making different a variety of products available wherever and whenever they need them.

BBVA API Market will allow you to generate a seamless experience for your customers by integrating BBVA financial products into your company quickly and easily. All our APIs have documentation that facilitates integration into any solution, as well as a testing environment in which to explore their different functionalities.

Treasury Management Solution connects clients' business to BBVA to perform on-demand transactions and access information in real time. Treasury Management APIs allow real-time access to BBVA services directly from clients' internal systems, ERPs or other management platforms, improving efficiency and freeing up time for more valuable strategic processes.

Up-to-date accounting information is essential for the efficient and agile management of any business. From real-time cash statements to instant payments and collections, the capabilities offered by Treasury Management APIs provide a broad, practical and reliable overview as well as a significant improvement in the user experience of customers, suppliers and employees: more robust, more convenient, more efficient. This tool will enable you to automate bank reconciliation processes and access instant information about your company's liquidity positions, make payments and credits to customers and suppliers automatically, saving time and management costs. Automate tasks that were previously performed manually, reducing risks and eliminating potential human error [10, 11].

The European PSD2 payment directive provides for banks to open their payment services to third parties or TPPs (Third Party Providers). This changes the landscape of the banking sector by opening it up to these new actors who are able to access the payment account services of financial institutions. BBVA provides TPPs with access to their clients' accounts through these APIs so that they can provide the payment services provided for in the regulations. The

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<sup>1</sup> <https://www.citibank.com/tts/solutions/digital-channels-data/citiconnect/>

consent of customers (companies and individuals) and their prior authentication by the bank are required in all cases and accounts must be accessible online [17].

DBS APIs help customers take the pain out of this major life-changing decision – by helping them to calculate their loan affordability and connect directly to DBS' loan application process. Moreover, customers can now transfer funds seamlessly from their DBS bank accounts to other parties. DBS provides account verification features to ensure there's no security risk to your business [18].

Standing instructions allow the setup, retrieval and management of automatic, scheduled, or recurring electronic payments to registered payees. Transaction Analytics present insights on customer spending patterns, money movements such as total spending on categories, monthly totals and more.

FX Rates capability furnishes current and historical exchange rates with enablement of FX Watch. Rates can also be provided for specific input currency pair. Public Information tool offers quick access to DBS' public information such as on DBS ATMs, branch details and articles. It also features e-appointments with the branch. Reference Data service allows developers to obtain an array of valid values and descriptions for the specified fields or domains.

### **Introduction of new banking technology in Russia**

Most banks develop effective commercial solutions based on the experience of global participants in the credit and foreign exchange market. The introduction of new banking technologies in Russia is hampered by the lack of its own analytical departments and qualified employees capable of creating effective financial models and adapting solutions proposed by Western commercial specialists [5, 6].

Since the API penetration became more influential, The Bank of Russia has developed standards for open banking interfaces (open APIs). The bank expects that their use will contribute to the development of financial products and services in the financial market [8].

In October 2019, TAdviser conducted a study on the use of open APIs by the Russian banking sector. A survey of 25 banks in the top 100 largest financial institutions of the Russian market showed that 75% of them have already started or are planning to use open APIs.<sup>2</sup>

The development of digital channels is a strategic priority for VTB Capital Investments. VTB Capital has created an investment platform and is ready to provide partners with access to it using Open API. Two major projects have already been implemented: an investment platform has been launched on the RBC Quote website, and Post Bank clients have organized access to VTB's

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<sup>2</sup> [https://www.tadviser.ru/index.php/%D0%A1%D1%82%D0%B0%D1%82%D1%8C%D1%8F:%D0%92\\_%D0%B1%D0%B0%D0%BD%D0%BA%D0%BE%D0%B2%D1%81%D0%BA%D0%BE%D0%BC\\_%D1%81%D0%B5%D0%BA%D1%82%D0%BE%D1%80%D0%B5\\_%D0%A0%D0%BE%D1%81%D1%81%D0%B8%D0%B8\\_%D0%BD%D0%B0%D1%87%D0%B8%D0%BD%D0%B0%D0%B5%D1%82%D1%81%D1%8F\\_API-%D1%82%D1%80%D0%B0%D0%BD%D1%81%D1%84%D0%BE%D1%80%D0%BC%D0%B0%D1%86%D0%B8%D1%8F](https://www.tadviser.ru/index.php/%D0%A1%D1%82%D0%B0%D1%82%D1%8C%D1%8F:%D0%92_%D0%B1%D0%B0%D0%BD%D0%BA%D0%BE%D0%B2%D1%81%D0%BA%D0%BE%D0%BC_%D1%81%D0%B5%D0%BA%D1%82%D0%BE%D1%80%D0%B5_%D0%A0%D0%BE%D1%81%D1%81%D0%B8%D0%B8_%D0%BD%D0%B0%D1%87%D0%B8%D0%BD%D0%B0%D0%B5%D1%82%D1%81%D1%8F_API-%D1%82%D1%80%D0%B0%D0%BD%D1%81%D1%84%D0%BE%D1%80%D0%BC%D0%B0%D1%86%D0%B8%D1%8F)

brokerage services. Another important project for the market is in the final stage of development. After they are tested and debugged, we will be ready to offer our open API to partners for cooperation in various areas. VTB Bank is the first and so far the only bank in Russia to use Open API to develop the market for investment products [16].

Moscow Industrial Bank (MINBank) offers its legal entities a service for automatic verification of client operations developed by Kontur based on the Kontur.Fokus solution via open banking interfaces. The system analyzes the current account by 20 parameters, divided into three blocks: payment of taxes, the movement of funds on the account, the influence of counterparties on the reputation of the business. A warning about possible blocking is displayed in the form of a color signal: red, yellow or green. Notifications appear in the familiar Internet Banking interface. The opportunity to look at your business through the eyes of a bank and, as a result, avoid financial and reputational losses due to blocking of accounts under 115-FZ turned out to be very much in demand by clients.

Experience in the development of the BaaS-service Alfa. Corporate for the work of corporate clients of Alfa-Bank with self-employed, recognized as the best solution in the nomination "Implementation of Open API in banking" at FINAWARD'21 [15]. The contribution of the API platform to the project is the business concept, processes and the bundle of what is not connected to the working service, as well as the fulfillment of regulatory requirements. In fact, the platform acted as an intermediary between the bank and the business in the project.

NSD started working on Open API even before this topic became mainstream. "As an infrastructure player at the center of the financial market, we have to invest a lot in electronic communication with clients," said Alexander Nam, Managing Director for Technology Services at NSD. He named standardization and multichannel, as well as additional services, in the development of which it is planned to invest, as strategic directions for the company.<sup>3</sup>

### **Conclusion**

Global trends show that bank customers want and expect more control over their data from financial institutions. Open Banking was created specifically to give customers of banks and other financial institutions complete control over their data, while improving the competitive environment and allowing access to a variety of financial products online [4].

Open Banking provides tremendous opportunities for the largest players in the financial market. Banks should view such partnerships as an opportunity to quickly launch new innovative products, attract even more customers, while controlling cost and risk. During the analysis, I identified several scenarios for the implementation of Open Banking.

#### 1) Open data

<sup>3</sup> <https://bosfera.ru/bo/kurs-ot-open-api-k-open-banking-opredelit-regulyator>.

A bank client can authorize a third-party organization to collect data on his account transactions, based on this information, a third-party organization can provide the client with the necessary report through the bank's online platform.

### 2) Open processes

A bank customer can authorize a third-party organization to process payments. For example, an organization pays for all utility bills, giving the client a detailed report and statistics.

### 3) Open the products

The client of the bank decided to change the bank in which it will be served. This can be done online without having to go to a bank branch. In this case, all data about the client is deleted from the bank from where the client left [13].

In the context of digitalization, large corporate clients are beginning to impose new requirements on financial institutions. They need an elastic pool of banks, instant service, and a continuous flow of reliable information. The potential of new banking solutions, multiplied by the potential of the Open API, creates unbelievable opportunities that professional financial market participants can provide to their key clients [10].

Corporate customers today want to work at a lower cost and get information faster. It is important for treasurers to manage liquidity, automate the currency control function, use a repository of electronic statements with the ability to retrieve and provide them on demand. Integration with ERP systems of leading suppliers and the use of different channels for exchanging information with banks are also important for them [12].

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## **API В КОРПОРАТИВНОМ И ИНСТИТУЦИОНАЛЬНОМ БАНКИНГЕ (ИНТЕРФЕЙС ПРОГРАММИРОВАНИЯ ПРИЛОЖЕНИЙ В КОРПОРАТИВНОМ И ИНСТИТУЦИОНАЛЬНОМ БАНКИНГЕ)**

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*Цель:* статья посвящена API (Application Programming Interface) - одной из цифровых технологий, которая активно развивается в корпоративном и институциональном банкинге на мировом финансовом рынке. *Обсуждение:* банковская отрасль активно развивается в сфере цифровых технологий, чтобы стать более конкурентноспособной и устойчивой, и многие крупные банки вступают в партнерские отношения с финтех-компаниями для расширения своих услуг. В то же время мы можем наблюдать активное создание своей собственной цифровой инфраструктуры в банках. В связи с этим я решила провести более глубокое исследование и проанализировать такую финансовую инновацию, как API, и определить текущие возможности технологий и опыт корпоративных и институциональных банков, которые внедряют API в свой повседневный бизнес за рубежом и в России. *Результаты:* я выявила, что банки активными темпами наращивают свое цифровое превосходство благодаря инновационным решениям с помощью API, который помогает упростить многие банковские операции. Активное совершенствование и внедрение этой инновации позволяют предложить клиентам разнообразные технологические инструменты и делают банки более конкурентоспособными на рынке.

**Ключевые слова:** инновации и ИТ, информационные технологии, банковская цифровизация, институциональный и корпоративный банкинг, API и открытый банкинг.

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