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Account-to-account payments in Europe

Regulations, challenges and market entry in the Italian context

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Introduction

The digital payments industry is undergoing a deep transformation as account-to-account (A2A) solutions emerge as viable alternatives to traditional card-based infrastructures. Building on the regulatory impetus of the Second Payment Services Directive (PSD2) and anticipating the forthcoming PSD3 and the Payment Services Regulation (PSR), European markets are experimenting with new forms of payment initiation that bypass established card networks and enable direct transfers between bank accounts. This thesis is situated within this evolving context, and its purpose is to analyze how an A2A provider can successfully establish itself in the Italian market. Written from the perspective of DoubleP, a consultancy specialized in digital payments and Inespay's local partner in Italy, it combines theoretical insights with applied knowledge gained from guiding the first concrete steps of a cross-border expansion project.

The primary goal is not merely descriptive, but strategic: to investigate the interplay of legislative, technological, and behavioral elements that influence A2A adoption, as well as to analyze how a provider might overcome obstacles to attain commercial viability. While Europe is embracing open financial ecosystems, national markets remain relatively diverse. Understanding the differences is crucial for payment institutions, retailers, and legislators alike. Italy presents a hard but intriguing scenario. Consumer reliance on cards, particularly prepaid cards, remains high, APIs are scattered across various providers, and robust consumer identification methods frequently cause difficulty. At the same time, retailers are more pushed to diversify payment methods and reduce reliance on card networks, offering an opportunity for A2A solutions that combine low cost with quick settlement.

The research is structured across five chapters. The first three chapters establish the theoretical and regulatory background. Chapter I defines A2A payments, distinguishing between their models and highlighting their economic and operational benefits compared with card-based instruments. Chapter II explores the regulatory framework, focusing on PSD2 and the role of the European Banking Authority (EBA) in developing regulatory technical standards and clarifying their application. Chapter III examines the technological underpinnings of A2A payments, from the role of APIs in open banking to the potential of blockchain as a longer-term infrastructural enabler. Together, these

chapters map the structural enablers and barriers that shape the diffusion of A2A across Europe.

Chapter IV transitions from theory to practice by exploring Trustly, a Swedish provider that has emerged as Europe's leading A2A player. Trustly's trajectory illustrates how favorable conditions in the Nordic markets (digital maturity, consumer trust in bank-based payments, and consistent APIs) enabled rapid scaling. Contrasting Trustly's experience with the Italian context sheds light on the difficulties of entering less mature markets, in which consumer conservatism and infrastructural fragmentation slow adoption. This comparative analysis provides a benchmark for evaluating subsequent entry strategies.

Chapter V develops the empirical case of Inespay's expansion into Italy, a process in which DoubleP acted as strategic and operational partner. Founded in Spain, Inespay built its reputation by leveraging a favorable environment marked by instant payments and the widespread cultural acceptance of A2A. Entering Italy required a different approach: opening test accounts with multiple banks, running live trials, and documenting the frictions of fragmented APIs and inconsistent authentication flows. Beyond the technical dimension, the chapter also highlights the importance of regulatory dialogue with national authorities and the adaptation of branding and communication strategies to local culture. It concludes by synthesizing the lessons learned: that persistence in testing, continuous institutional engagement, and careful localization are as crucial as technical compliance in building a credible A2A proposition.

The research has combined regulatory and institutional analysis with practical evidence from Inespay's market entry into Italy. It enriches the understanding of how open banking frameworks are operationalized in diverse environments, and it offers guidance for providers, merchants, and regulators seeking to navigate the transition toward A2A payments. For DoubleP, the project has also represented a concrete demonstration of its role as a bridge between foreign innovators and the Italian ecosystem, providing not only consulting expertise but also direct involvement in sales, merchant outreach, and strategic positioning.

In sum, this thesis is both a study of A2A in Europe and a roadmap for entering Italy. It shows that while regulation provides the legal foundation, and technology enables new flows, it is the alignment of institutions, merchants, and consumers that ultimately determines success. Italy's path may be slower than that of Spain or the Nordics, but it is

nonetheless opening to change. For providers willing to invest in persistence and collaboration, the market represents a significant opportunity, and the lessons drawn here are intended to inform that journey.

I. Overview of A2A payments

1.1 Definition and functioning of A2A payments

Account-to-account payments, commonly referred to as A2A, are an emerging payment method made possible by the evolution of Open Banking frameworks. As part of a fast-evolving payment landscape, A2A transactions provide an alternative to traditional payment methods.

Payment methods are basically how financial transactions are carried out, influencing crucial areas of corporate operations such as cash flow and financial reporting. holistic financial strategy. Every payment method has distinct procedures and features that influence the flow of funds between parties and influence the effectiveness and ease of transactions.

Payment methods encompass a wide range of options through which individuals and businesses can transfer money in exchange for goods and services.

Before proceeding with the analysis, it is essential to provide a precise and comprehensive definition of a payment method. A payment method refers to a means of transferring funds from a payer to a payee, encompassing instruments (such as cards, bank transfers, and digital wallets), processing (the exchange and clearing of payment instructions), and settlement (the final transfer of funds between parties). It operates within a framework of legal regulations, financial intermediaries, and standardized procedures to ensure transactions are conducted securely and efficiently.[1]

One of the most traditional forms of payment is cash, which remains a common choice for in-person transactions despite the growing prevalence of digital alternatives.

Cards are another dominant payment method, including credit, debit, and prepaid cards. These provide users with convenience, enhanced security measures, and, in the

[1] based on the description found in the ECB Payment Systems Report (2010)

case of credit cards, the option of deferred payments. Cards are widely accepted for both online and offline purchases, making them a staple in the global payment ecosystem.

The digital era also saw the introduction of digital wallets and mobile peer-to-peer (P2P) payments. Platforms like PayPal, Apple Pay and Google Pay allow users to store payment information digitally and conduct transactions quickly and securely via smartphones. Mobile P2P payments have gained popularity for facilitating instant transfers between individuals, especially in social or informal settings.

Bank transfers represent another critical category of payment methods, characterized by direct transactions between bank accounts. Within this category, Account-to-Account (A2A) payments are particularly noteworthy, as they allow real-time or standard transfers directly from one account to another without intermediaries. Direct debits, a subset of bank transfers, are also frequently used for recurring payments such as subscription services and utility bills. We will delve deeper into these distinctions once covered all the means of payment.

Buy Now, Pay Later (BNPL) solutions have emerged as a popular alternative for those seeking flexible financing options. Providers like Klarna, Afterpay, and Affirm enable consumers to make purchases and pay overtime in installments (usually they provide a maximum of 3 installments up to €200 euros, offering an often interest-free way to spread costs.

Cryptocurrencies are another payment method that has been gaining traction, particularly in digital and cross-border transactions. Unlike traditional payment systems, cryptocurrencies such as Bitcoin and Ethereum operate on decentralized networks.

Despite the digital shift, cheques remain in use, especially for certain business transactions and formal payments. As a paper-based method of transferring funds through written authorization, cheques are gradually becoming less common but still play a role in specific contexts.

The variety of payment methods available today reflects the evolving needs of consumers and businesses, with each option offering different advantages in terms of convenience, speed, security, and cost and the environment will be even more heterogeneous in the future designing more specific and diverse methods of payments.

Focusing on bank transfers as a starting point is necessary to clarify the existing classifications and subcategories within the broader group of account-to-account payments. Moving money electronically from one bank account to another is known as a bank transfer. The word "bank transfer" encompasses a wide range of possible transfer kinds and applications.

Account-to-Account (A2A) payments are direct transfers of funds from one bank account to another that avoid intermediaries such as card networks and instead rely on bank rails, payment service providers, or open banking infrastructure. Unlike card-based transactions, A2A payments use technology such as PSD2 (Payment Services Directive 2) in Europe to make transactions easy, safe, and cost-effective. Direct transfers between accounts, high security through strong authentication mechanisms, lower processing costs, and compatibility with a wide range of use cases, including peer-to-peer (P2P) payments, business-to-business (B2B) transactions, recurring payments, bill payments, and e-commerce checkouts, are among the key features of A2A payments. An A2A payment system's success is dependent on its capacity to provide efficient, scalable, and reliable payment processing while meeting customer security and convenience expectations.

Although A2A payments and immediate payments aim to improve speed and efficiency, they differ in scope and underlying mechanics. Immediate payments are specifically designed for the speedy processing and settlement of credit transfers, ensuring that transactions are validated and processed within seconds or minutes[2]. A2A payments, on the other hand, stress the direct connection between payer and payee accounts, resulting in a broader framework that encompasses payment kinds other than rapid transactions. While rapid payments are frequently a subset of A2A payments, A2A systems can also handle transactions with slightly delayed settlement if necessary for the context or use case.

As briefly mentioned before A2A started to develop seriously in Europe when psd2 enabled it but the historical development of Account-to-Account payments began with the introduction of real-time payments in Japan in 1973, marking the first significant step

[2] Porath, M. (2017). Immediate payments: Beyond ubiquity, convenience, speed, and security paving the road to a cashless society. Journal of Digital Banking, 1(4), 349–357.

towards instant bank transfers. This initiative aimed at enhancing the efficiency of financial transactions through real-time settlement systems. In Europe, progress continued with the establishment of a large-scale retail A2A payment network in Austria in 2001, designed to standardize and streamline payment processes. The adoption of A2A payments accelerated significantly with the implementation of the Single Euro Payments Area Instant Credit Transfer (SCT Inst) scheme in 2017, which enabled instant payments across participating European countries within seconds, promoting cross-border transactions and broader integration of A2A systems. Spain also contributed to this evolution with the launch of domestic instant transfer solutions in 2016, which quickly gained widespread popularity.

The growth of A2A payments has been largely driven by technological advancements enabling real-time settlement capabilities, the establishment of regulatory frameworks promoting open banking, and the increasing demand for faster, more efficient, and secure payment methods. Regulatory developments, particularly in Europe, have played a fundamental role in fostering innovation and creating a favorable environment for the expansion of A2A payments. As technological infrastructure continues to improve and adoption rates increase, A2A payments are expected to play an even more prominent role in the global payment landscape.

1.2 Types of A2A payments: transaction models and market structures

Account-to-Account payments facilitate direct fund transfers between bank accounts, bypassing intermediaries like card networks. These transactions are primarily categorized into two models: push payments and pull payments, which are applied across different usage contexts such as peer-to-peer (P2P) payments, consumer-to-business (C2B) payments (both online and offline) and business-to-business (B2B) payments.

Push payments are initiated by the payer, actively transferring funds from their account to the recipient's. This method is commonly employed for one-time transactions, such as bank transfers or instant payments. With advancements in technology, APIs now enable the automation of these transactions by triggering notifications or prompts for customer

action. For example, in peer-to-peer transactions, individuals can use push payments to settle shared expenses promptly.

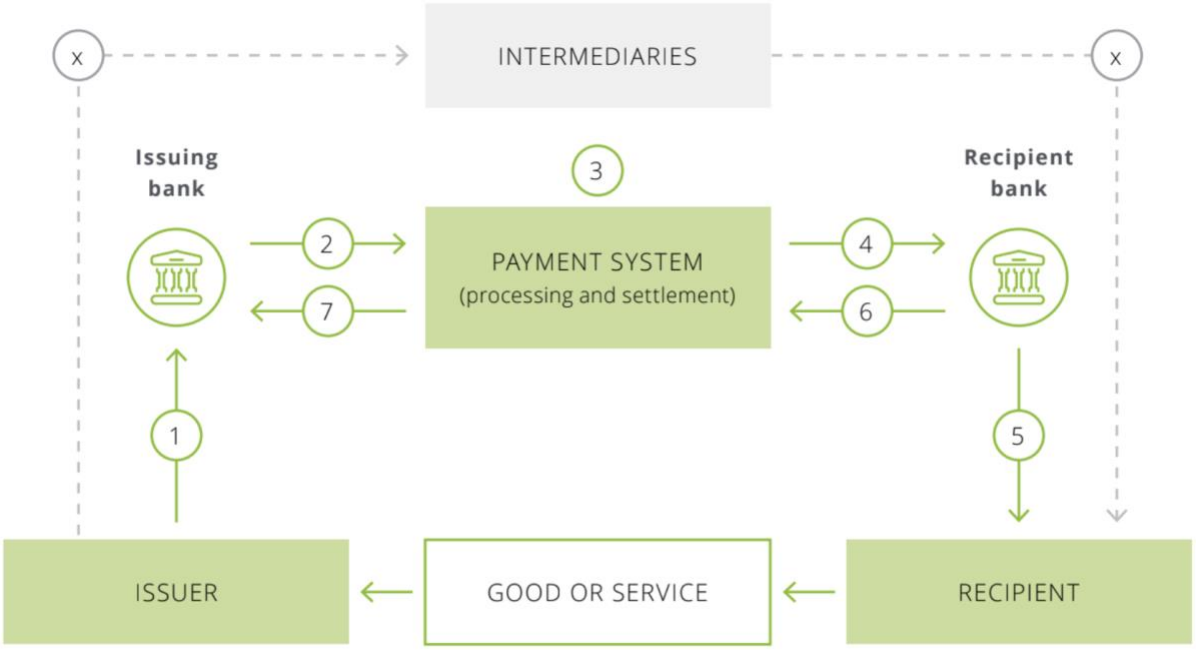
In contrast, pull payments are initiated by the payee, who, with prior authorizes the withdrawal of monies from the payer's account. This model is prevalent in recurring payment scenarios like subscriptions, where customers provide consent through mechanisms such as direct debit mandates. In these cases, businesses automatically collect payments at regular intervals, streamlining the payment process for services like monthly utility bills or subscription fees.

Understanding the distinction between push and pull payments is crucial for comprehending the operations of various A2A payment providers and the services they offer, including companies like Trustly.

Account-to-account (A2A) payments are commonly utilized in three contexts. First, they can be used for one-time payments at the checkout. In this situation, the user selects an A2A payment method, such as a SEPA Credit Transfer (SCT), which completes the transaction instantaneously. This method is especially handy for large transactions, as regular card payments may result in greater fees. Second, A2A technology enables recurring payments, which are often in the form of pull payments. In this configuration, the consumer supplies their IBAN and signs a mandate authorizing the merchant to withdraw money from their account on the agreed-upon schedule (e.g., in accordance with contract terms). This mandate must be properly signed and processed, often by depositing it with a bank, before withdrawals can commence. Third, A2A payments are utilized for payouts, particularly when a company needs to deliver money to several recipients. In such circumstances, SEPA Credit Transfers allow for real-time, large-scale disbursements to clients or partners across many countries, providing faster and more efficient payment options than previous methods.

Now that the primary A2A payment models and their most common applications have been outlined, it is essential to examine the underlying processes and infrastructure that enable these transactions.

Figure 1. Outline of an Account-to-Account Payment Process.



Source: Deloitte. (2023, September). *Present and future of account-to-account payments.*

1. Push payments are started by a bank's website or mobile app, or by a facilitator. To initiate payment without real-time authorization, users must first identify their identity, either during or before the transfer. Banks typically use standard authentication methods including biometrics (e.g., facial recognition, fingerprints), security questions, PINs, and text messages Banks typically use standard authentication methods including biometrics, security questions, and text messages. When two independent factors are combined, these methods can ensure compliance with the Strong Customer Authentication (SCA) requirements, which will be explained in detail in the second chapter of this thesis.

Pull payments are triggered in the recipient bank's account using their website or mobile app, or through a facilitator. The issuer must prove their identity and consent to the execution of the pull payment.

2. When a payment is initiated, the issuing bank checks the availability of funds and sends a real-time message (e.g., ISO 20022) to the payment system, such as SEPA Instant Credit Transactions.

3. The real-time payment system validates the communication delivered by the issuer, such as a payment order, to ensure it follows the scheme's rules and technical standards.

4. The real-time payment system transfers the order to the receiving bank via the appropriate payment network (e.g., Iberpay, EBA Clearing Company, or TIPS). Financial institutions can link directly to the payment network or process transactions through a representative bank (e.g., Cecabank).

5. The destination bank processes the payment order and sends it to the payment network for rapid transfer of funds.

6. Once a payment is made, the recipient bank certifies its execution in real time through the payment network.

7. The real-time payment system validates payment execution to the issuing bank and alerts the user via mobile banking app or bank/payment initiator website.

To fully understand the phases described and the technological infrastructure behind instant A2A transfers, it's important to look more closely at the key components involved.

The messaging schemes serve as standardized platforms that enable the exchange of financial information between various systems, institutions, and regions. They provide a common language for communication among financial entities engaged in instant transactions. A prominent example is the ISO 20022 standard, which offers a universal messaging framework adopted by numerous financial institutions globally. This standard enhances interoperability and efficiency in financial communications.

Real-Time Payment Systems **(**RTPS) are infrastructures designed to facilitate immediate fund transfers between banks. They establish the rules and standards for

processing and settlement, ensuring that transactions are executed swiftly and securely. These systems provide banks with the necessary messaging structures to communicate transaction details effectively. For instance, The Clearing House's RTP network in the United States enables real-time payments across various use cases, including account-to-account transfers and merchant disbursements.

Real-Time Gross Settlement (RTGS) systems are specialized payment systems where the transfer of funds occurs individually on a transaction-by-transaction basis without netting. This means each transaction is settled in real-time, providing immediate finality and reducing settlement risk. Central banks often operate RTGS systems to facilitate high-value interbank transfers. For example, the European Central Bank's TARGET2 system processes large-value euro payments in real-time, ensuring efficient and secure settlements.

In addition to transaction structures and technology infrastructure, understanding the market structure behind A2A payments is critical. A2A ecosystems include a variety of actors who collaborate to ensure the smooth initiation, processing, and settlement of payments. These include the payer's and payee's banks, which act as the transaction's entry and exit points; Payment Initiation Service Providers (PISPs), which are enabled by open banking frameworks and facilitate the initiation of payments on behalf of users; and clearing and settlement institutions, such as EBA Clearing, TIPS, or Iberpay, which handle the secure and rapid exchange of funds between banks. In other circumstances, banks may not link directly to the core payment infrastructure, instead relying on intermediaries such as Cecabank to handle transactions on their behalf.[3]

Central banks regulate and operate, particularly where Real-Time Gross Settlement (RTGS) systems are involved, to ensure systemic stability and the enforcement of uniform norms. This layered structure allows A2A payments to be processed effectively and securely across national and international networks.

The Single Euro Payments Area (SEPA) is a good example of how these components function together in practice, as it provides a standardized framework for euro-denominated A2A transactions across Europe. SEPA has three instruments: regular

[3] Deloitte. (2023). *Present and future of account-to-account payments*.

credit transfers (SCT), direct debits (SDD) for recurrent pull payments, and the SEPA Instant Credit Transfer (SCT Inst), which allows for real-time push payments. While all of them are A2A transactions, only SCT Inst ensures instant execution.

This system is backed by the ISO 20022 communications standard, the SCT Inst scheme, and real-time infrastructures including EBA Clearing's RT1 and TARGET Instant Payment Settlement (TIPS). The European Payments Council (EPC) manages the SEPA framework, coordinating standards and governance across banks, PSPs, and TPPs. This structure allows for interoperability, speed, and reliability across participating countries, highlighting how a unified scheme can enhance the efficiency of A2A payments at scale.

However, in order to properly evaluate the possibilities of A2A payments in today's financial landscape, it is necessary to look at not only their operational methods, but also their benefits, limitations, and challenge, which will be discussed in the next section.

1.3 Benefits, limitations, and challenges of A2A payments

A2A payments offer several advantages over traditional infrastructures such as card schemes and direct debits, while also presenting some adoption challenges.

The implementation of public programs such as the UK's Faster Payments Service and the Eurozone's TIPS system has played an important role in advancing real-time A2A payment systems across Europe, while also amplifying their benefits—most notably, enabling instant transfers under the SCT Inst scheme. These solutions have become more popular because of the increasing success of companies like Trustly and Sofort. Subsequent chapters of this work will go deeper into these aspects.

The appeal of A2A payments lies in a combination of operational, strategic, and technological benefits. First and foremost is instantaneity, the immediate transfer and availability of funds, which eliminates settlement delays and mitigates non-execution risk. This level of speed redefines user expectations and supports the shift toward a cashless economy[4]. Another significant advantage is disintermediation: by avoiding card networks

[4] Porath, *Immediate Payments: Beyond Ubiquity, Convenience, Speed, and Security Paving the Road to a Cashless Society*, *Journal of Digital Banking* 1, no. 4 (2017): 349–357.

and intermediaries, A2A payments lower transaction costs while increasing payment chain transparency.

From a security aspect, A2A is supported by strong customer authentication (SCA) protocols provided by PSD2, which assist in reducing fraud and boost consumer confidence. A2A's security features not only ensure regulatory compliance but also establish it as a reliable alternative to cards and wallet, especially in high-risk digital environments[5].

A distinguishing feature of A2A infrastructure is its neutrality, it is not owned by any single commercial entity, unlike card schemes or digital wallets. A2A technology can be connected with different checkout systems and payment scenarios because it makes use of open banking standards. This makes it more inclusive and competitive, reducing vendor lock-in and facilitating innovation. As a matter of fact, another key feature is the system's openness, which allows for seamless payment initiation across different banks and platforms, empowering consumers and fostering a more interconnected financial ecosystem.

A2A payments are also proving to be highly versatile. Aside from traditional use cases, they offer value-added services such as recurring subscription management, real-time point-of-sale (PoS) payments, loyalty program integration, and quick payouts for marketplaces and gig economy platforms. This flexibility to develop additional services on top of current infrastructure provides a significant competitive advantage and is consistent with the growing need for embedded finance solutions.

As previously stated in this research, A2A solutions can be used for a wide range of transaction types, including P2P, C2B, and B2B. Specific benefits are not only theoretical; when applied in specific conditions, they outperform regular payment methods.

In the peer-to-peer environment, traditional payments between individuals have generally relied on cash, non-instant bank transfers, or mobile applications like PayPal and WeChatPay. However, these techniques have drawbacks: cash withdrawals are

[5] Pranger, *Instant Payments: Providing the Rails for New Payment Solutions*, *Payment Practice Paper*, 2023.

tedious and costly, especially for big amounts, and they raise the danger of money laundering and fraud. While mobile apps provide digital convenience, they require users to go through lengthy registration processes, such as identification verification and payment transfers from their bank accounts to the app. Traditional bank transfers are similarly problematic due to extended execution times. In contrast, instant A2A payments offer a streamlined experience where users simply access their digital banking platforms and execute transfers within seconds, providing superior efficiency, security, and convenience.

The C2B category is traditionally dominated by card payments and cash. Card payments often require consumers to provide sensitive information, such as card numbers and personal details, to merchants, raising privacy and security concerns. A2A payments, however, eliminate this issue by allowing consumers to make payments directly from their bank accounts without sharing personal information with businesses. This heightened security, along with the ability to avoid registration with third-party providers, makes A2A payments an attractive alternative. Additionally, cash payments, while useful in physical transactions, are virtually irrelevant in online commerce and pose significant security risks when held in large amounts. A2A payments, particularly those enabled by open banking, offer greater control and safety for consumers, especially when their payment data can be securely stored for future transactions.

Finally, in the B2B segment, bank transfers are the predominant method for settling transactions. However, traditional bank transfers often suffer from delayed execution times, which negatively impacts cash flow and treasury management. By providing instant or near-instant transfers, A2A payments present a more efficient solution, improving liquidity management and enhancing operational efficiency for businesses of all sizes.

However, despite these compelling advantages, account-to-account (A2A) payments are not without limitations and challenges. One significant barrier is consumer habit and inertia. Card payments and digital wallets remain deeply entrenched in consumer behavior due to their familiarity, ease of use, and widespread acceptance[6]. This

[6] Token & Open Banking Expo (2022), *Who Will Pay by Bank? Survey Report*, June 2022.

makes it difficult to encourage a shift towards less familiar payment methods, especially in markets where trust in traditional banks or new fintech platforms is uneven.

Merchant adoption also remains fragmented. While A2A offers cost benefits, integrating it into existing checkout flows can be operationally complex. It may require merchants to overhaul reconciliation systems, update fraud detection protocols, and retrain staff or support teams. Moreover, the level of A2A compatibility across checkout solutions still varies, making it harder to scale integrations smoothly across channels or regions.

Technical fragmentation is another concern. Differences in the availability and maturity of instant payment infrastructure across countries, such as variations in user interfaces, authentication standards, and real-time capabilities, hinder the creation of a uniform A2A experience, particularly for cross-border use cases. Confirmation of Payee (CoP) services, for instance, remain inconsistently deployed across Europe, potentially weakening user trust and increasing the risk of misdirected payments.

Incentive misalignment within the payments ecosystem also poses resistance to adoption. Pranger (2023) and The Paypers (2024) highlight that A2A payment models tend to reduce the role of intermediaries such as acquirers and card networks, leading to lower margins for those actors. As noted by The Financial Brand[7],this disintermediation can threaten the revenue streams of incumbent players who dominate the card-based infrastructure and may be reluctant to promote alternatives that diminish their influence.

Additionally, even though A2A payments are typically positioned as low-cost alternatives, implementation is not without its expenses. Initial integration costs, onboarding friction, and the need for user education can all be significant. In the context of e-commerce, where seamless user experience is paramount, even slight increases in friction at checkout, such as redirect flows or strong customer authentication (SCA) requirements, can negatively impact conversion rates.

In conclusion, A2A payments offer a robust, secure, and efficient alternative to legacy systems and are increasingly seen as a foundational component of the future

[7] The Financial Brand. (2023). *The emerging payments trend threatening the future of bank revenues*

payments landscape. However, realizing their full potential requires overcoming key challenges related to user adoption, infrastructure harmonization, and ecosystem alignment. In subsequent sections of the analysis, real use cases and market reactions will be used to investigate these dynamics further.

II. Regulatory landscape

This chapter on regulation is essential to understand the context in which A2A payments have developed and the opportunities for their expansion today. Without the specific provisions introduced in the two Payment Services Directives, it would have been impossible to create such a payment method.

2.1 PSD2 and its role in enabling A2A payments

The Payment Services Directive represents much more than just new legislation for the fintech and payments industry; it has fundamentally transformed the sector. It not only expanded opportunities for firms specializing in A2A payments, but also reshaped the business models of banks, card issuers, major corporations like Amazon, and data analytics providers.

2.1.1 The first attempt: PSD I

The first Payment Services Directive (PSD I), approved in 2007 and implemented by EU member states in 2009, was the EU's first attempt to standardize and regulate payment services within its internal market. At the time, payment systems were divided along national lines, resulting in inefficiencies and prohibiting cross-border transactions. PSD I aimed to consolidate rules, increase consumer protection, and create a more competitive environment by allowing non-bank participants to enter the market and promoting the growth of SEPA.

However, a subsequent impact evaluation uncovered limits. PSD I enhanced transparency and payment speed, but it did not significantly boost competition or encourage innovation. Most authorized payment institutions were already established, and cross-border activities were restricted due to legislative inconsistencies and complex passporting procedures. Fee structures, consumer rights enforcement, and complaint resolution processes varied across member states. One of its guiding principles was non-discrimination, which ensured equitable access to payment infrastructures for all authorized suppliers. It also established criteria for openness, processing times, and customer liability, paving the way for increased innovation and integration across EU states. Furthermore, certain sorts of transactions, such as those involving e-money or

transfers between EU and non-EU nations (known as 'one-leg' transactions), were either exempt from the Directive or subject to additional requirements. This caused uncertainty for both providers and customers, because it was not always clear which transactions were protected by the rule, and which were not. These findings led the European Commission to initiate further consultations and paved the way for PSD II, aimed at addressing the shortcomings of its predecessor and reinforcing the EU's push toward an integrated, open, and competitive payments ecosystem.

2.1.2. The step forward: PSD II

Following the limitations exposed by PSD I and considering the accelerating digital transformation in the financial sector, the European Union introduced the second Payment Services Directive (PSD II), which entered into force in 2018. It marked a significant step forward in shaping a more open, competitive, and secure payment environment, a shift that would prove instrumental for the rise of A2A payment solutions. PSD II reaffirmed many of the foundational principles of PSD I but expanded its scope and regulatory reach. It aimed to deepen integration within the European payments market, promote fair competition, and reduce reliance on traditional payment instruments such as cards and cash. Crucially, it introduced provisions that allowed non-bank actors to access payment account infrastructure previously reserved for banks. This access, subject to clear regulatory conditions, laid the foundation for a new generation of services based on direct transfers between bank accounts.

A key element of PSD II was its removal of several exemptions that had previously left certain transactions or business models outside regulatory oversight. It extended coverage to transactions involving non-EEA parties and non-EU currencies, strengthening the framework for cross-border payments, a crucial development for modern A2A use cases. At the same time, it reaffirmed that institutions already subject to other regulatory regimes, such as those taking deposits or issuing e-money, would continue to be governed separately.

Another important dimension of the Directive was its emphasis on consumer rights and confidence. PSD II introduced more stringent transparency requirements and established clear liability rules in cases of fraud, unauthorized payments, or technical errors. These elements were essential in encouraging both individuals and merchants to

trust new forms of digital payments. Security was also brought to the forefront. Recognizing the need for robust defenses in a more interconnected and data-driven ecosystem, PSD II mandated stronger safeguards against fraud and data misuse. Although the specific mechanisms of authentication are explored in later sections, it is worth noting that this broader push for security played a key role in shaping how A2A payments have developed in the EU.

Finally, PSD II implemented several structural and regulatory adjustments that directly supported the growth of A2A payments. By expanding access to payment account infrastructure and clarifying rules around security, liability, and consent, it established the conditions necessary for A2A techniques to emerge as a credible alternative to card-based systems within the European payments ecosystem.

A particularly illustrative example of these adjustments is the regulation of screen scraping, a widely used but controversial method employed by early payment service providers such as Sofort. Prior to PSD II, these providers facilitated bank transfers by prompting users to enter their online banking credentials on the third-party platform. The service would then replicate the user's interaction with their bank's interface, retrieving account data and initiating payments on their behalf. While operationally effective, this practice posed significant risks to user security and data protection, as it required the sharing of sensitive credentials with actors outside the regulated banking environment. PSD II addressed this challenge by mandating the use of secure, standardized APIs through which authorized Third-Party Providers (TPPs) could access account data and initiate payments, with the user's explicit consent and without accessing login credentials. Although screen scraping was temporarily permitted as a fallback for legacy providers in cases where APIs were unavailable, regulatory authorities have since made clear their intention to phase out this practice entirely. In this way, PSD II not only enabled technical innovation but also redefined the boundaries of acceptable data access, reinforcing trust and security in the A2A payment landscape.

2.1.3 The role of the European Banking Authority

While the PDS II regulation established the legal grounds for the implementation of Account-to-Account payments, the European Banking Authority (EBA) was instrumental in translating the legal text into reality. Its guidance and standards kept the channel open

for the secure and consistent operation of A2A services, even where a third-party provider was involved.

The EBA's most relevant contribution to the A2A space was the development of Regulatory Technical Standards (RTS) on Strong Customer Authentication (SCA) and secure communication. These standards ensure that third-party providers (like PISPs) can access user bank accounts and initiate payments safely, using APIs and without sharing sensitive credentials. This was a critical step in making A2A transactions not only legally permitted but technically feasible and trustworthy. In addition, the EBA Guidelines on authorizations clarified the conditions under which new payment institutions, including those offering PISP and AISP services, could obtain licenses. This brought consistency across Member States and lowered barriers to market entry, supporting the emergence of new players offering A2A-based solutions.

In short, while PSD II opened the door to A2A innovation, it was the EBA's technical work that gave these services the regulatory certainty and infrastructure they needed to scale across Europe. These regulatory and technical developments, particularly those implemented by the EBA, laid the foundation for the formal integration of Third-Party Providers into the European payments' ecosystem, a category of actors that gained defined legal status and operational legitimacy under PSD2, enabling them to play a central role in the expansion of A2A payment services.

2.2 Third-Party providers and their function in A2A transactions

Third-Party Providers (TPPs) play a central role in the development of Account-to-Account payment systems. These entities enable services that connect directly to users' bank accounts, either to retrieve financial information or to initiate payments. Their involvement introduces an alternative to traditional card-based infrastructure by allowing funds to move directly between accounts. This shift helps reduce reliance on intermediaries and creates opportunities for faster, more transparent, and potentially lower-cost transactions.

Under PSD2, TPPs are categorized into two main groups: Account Information Service Providers (AISPs) and Payment Initiation Service Providers (PISPs). AISPs are

authorized to access data such as account balances and transaction histories, provided the user gives explicit consent. While AISPs cannot move money, they provide the foundation for a range of services, like budgeting tools, credit scoring solutions, and account aggregation apps, that help users manage their finances more effectively.

PISPs, in contrast, are permitted to initiate payments from the user's account to a payee. This function lies at the heart of A2A payments, as it enables users to complete transactions without going through card networks or e-wallets. Payments are executed directly from one bank account to another, often with fewer intermediaries and lower fees.

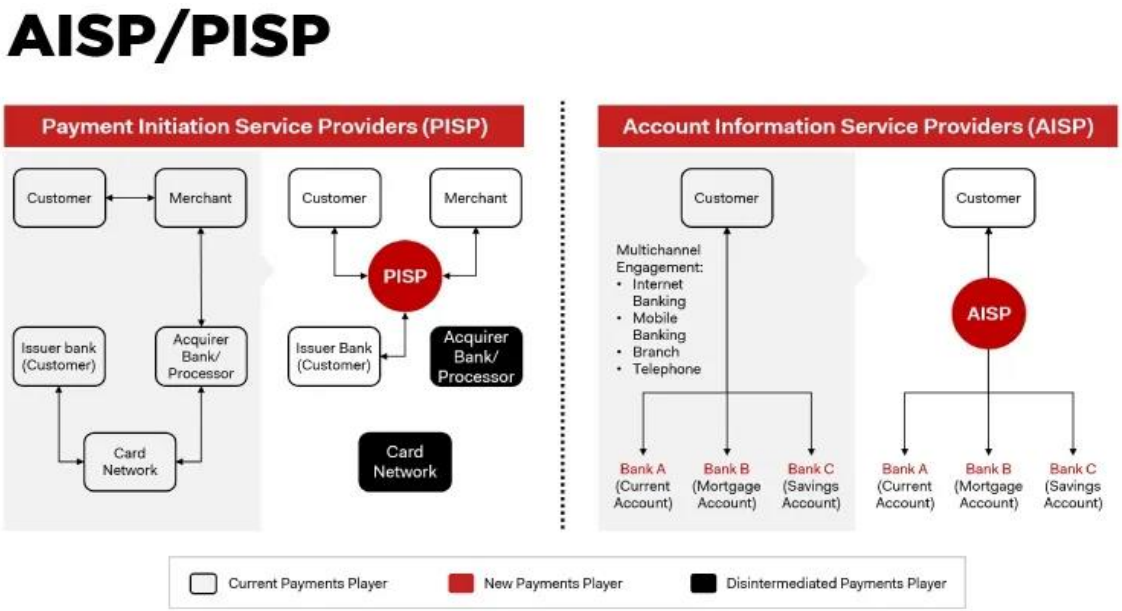
Both AISPs and PISPs must be registered with a national competent authority and are subject to strict rules regarding security, liability, and data protection. They are not allowed to hold user funds or sensitive login credentials and must interact with banks through secure, standardized APIs. These requirements ensure that third-party access is conducted safely and under proper regulatory oversight.

The introduction of AISPs marks a significant change in how financial data is handled. Before PSD2, banks had exclusive control over customer account information. The new rules, however, establish that banks must share this data with regulated third parties when customers permit it. As explained in accessible terms by Fabrick, banks no longer have the right to keep this information solely for themselves. This shift creates a more open financial environment, where users can decide to share their account data with external services that provide value, for example, personal finance applications or digital lenders. This development also helps lower the barriers to entry in the financial sector. Fintech firms and other non-bank entities can now offer financial services without needing to become banks themselves. With user consent, they can access real-time financial data and build innovative, tailored solutions. Importantly, this data is not accessible to just any actor. Only licensed providers, specifically AISPs, can request this access, and only under strict regulatory conditions. This ensures that the system remains both open and secure. While AISPs focus on information access, PISPs simplify the process of making payments. In traditional online purchases, paying by bank transfer involves manually copying the seller's bank account details, the correct amount, and a reference code into a banking app. This process is not only time-consuming but prone to errors,

which can result in incorrect payments or failed orders. From the merchant's perspective, managing these issues at scale adds considerable operational complexity. PISPs offer a solution by automating the initiation of the transfer. At the checkout stage, the PISP creates a pre-filled payment instruction with all the necessary details: amount, account number, and reference. The user is then redirected to a secure environment to authorize the transaction. This approach eliminates manual entry, reduces the risk of mistakes, and ensures that payments are correctly linked to their corresponding purchases.

AISPs and PISPs form the technological and regulatory backbone of the open banking system introduced by PSD2. AISPs empower consumers to share and benefit from their financial data, while PISPs enable more efficient, direct payments between accounts. Together, they support the expansion of A2A payment models across Europe, encouraging innovation while upholding strong standards of security and user protection.

Figure 2: The intervention of Third-Party Providers in the payments value chain.



Source: Sharma, S. (2020, September 12). InBrief: *The revised Payment Service Directive* (PSD2). Medium

The functional distinction between AISPs and PISPs is not only notional; it can be plainly seen in how these players modify traditional payment infrastructure. As illustrated in

Figure 2, PSD2 has enabled new participants (marked in red) to enter directly into the data and payment flows between clients and banks.

The graphic on the left depicts the role of PISPs, which begin payments on clients' behalf without the use of traditional card networks. In this new flow, a PISP initiates a transaction directly with the issuer bank, minimizing the need for card-based middlemen and allowing for more efficient direct A2A transfers.

On the right, we can see how AISPs provide a consolidated view of a user's financial status by obtaining data from many accounts (current, savings, or mortgage) at various institutions. This allows for services like account aggregation, spending classification, and personalized credit analysis, which were previously difficult to scale due to fragmented data. The visual contrast between the previous configuration (in black and grey) and the new roles provided by PSD2 (highlighted in red) clearly conveys the disintermediation effect of these third-party providers. By entering the customer-bank relationship in a regulated and secure manner, AISPs and PISPs are redefining not only the technical architecture of payments, but also the competitive landscape of financial services.

The strategic importance of TPPs for the growth of A2A payments lies in their ability to unlock access to payment account infrastructure while promoting competition and innovation. As Bär and Mortimer-Schutts highlight, the emergence of licensed AISPs and PISPs has catalyzed a new wave of fintech activity, especially among firms that do not aim to become full-service banks but instead offer specialized, data-driven services built on top of existing bank infrastructure. AISPs, such as Tink and Emma, employ user-permissioned bank data to provide account aggregation and personal finance management features. Similarly, PISPs such as Trustly and Volt allow direct account-to-account payments, circumventing traditional card networks while boosting speed and lowering costs.

Moreover, the regulation has shifted the balance of control from banks to users, who can now decide which providers access their financial data or initiate payments on their behalf. This has created new possibilities for consumer-centric payment experiences and more efficient B2C and B2B payment flows, especially in sectors where direct, real-time transfers are gaining traction.

2.3 Strong Customer Authentication: mechanisms, requirements, and market impact

A central innovation introduced by the PSD2 is Strong Customer Authentication (SCA), a regulatory requirement designed to enhance the security of electronic payments and reduce fraud in the increasingly digital financial ecosystem. SCA mandates that electronic payment transactions be authenticated using at least two out of three independent factors: something the customer knows, something they possess, and something they are. These factors are commonly referred to as knowledge, possession, and inherence, and must be independent enough that if one is compromised, it does not compromise the others.

The inclusion of SCA within PSD2 reflects a broader policy shift in the European Union's approach to digital payments. As Brener[8] notes, the intention behind PSD2 was not only to open the payments market to competition via third-party providers but also to ensure that consumers would benefit from increased security and transparency when transacting online. The rise of e-commerce and the growing adoption of mobile banking services has led to greater exposure to fraud risks, necessitating stronger verification methods and more secure authentication flows.

SCA applies to most electronic transactions within the European Economic Area, including A2A payments initiated through third-party providers such as Payment Initiation Service Providers. Casanova and Savoie[9] explain that the directive's goal was to create a harmonized and secure environment where consumers could confidently allow licensed third-party providers to access their accounts or initiate payments on their behalf. However, this also meant that traditional authentication methods like static passwords or SMS OTPs, once common, would no longer be sufficient to meet regulatory standards unless combined with an additional factor. Under this framework, the three categories of authentication factors are defined as: Knowledge, so something the user knows, such as a password, PIN, or a response to a security question; possession:

[8] Brener, A. (2019). Payment Service Directive II and its implications. In T. Lynn, J. G. Mooney, P. Rosati, & M. Cummins (Eds.), Disrupting Finance: FinTech and Strategy in the 21st Century. Palgrave Macmillan.

[9] Casanova, J., & Savoie, M. (2019). Navigating the EU regulatory landscape for payments. *Journal of Payments Strategy & Systems, 13*(3), 242–254.

something the user owns, typically a mobile phone or hardware token used to receive a one-time password (OTP) or push notification, and inherence: something the user is, encompassing biometric identifiers such as a fingerprint, facial recognition, or voice pattern. This triad model forms the technical and regulatory foundation for compliant authentication mechanisms in the EU. Importantly, to qualify as SCA, the two (or more) factors used must be from different categories and validated independently, meaning the compromise of one factor must not lead to the compromise of another.

In practical terms, the implementation of SCA has significantly shaped the way A2A payments are executed in Europe. Particularly in the context of third-party initiated transactions, such as those carried out by Payment Initiation Service Providers (PISPs), SCA acts as a regulatory gateway that ensures trust between users, intermediaries, and financial institutions. When a user consents to a PISP-initiated payment, the actual authentication process typically occurs via the user's banking interface, where two compliant factors, often a combination of a mobile device and a biometric or password, are required to approve the transaction. This authentication, while externally initiated by a third party, is technically completed within the secure environment of the account-holding institution, thereby maintaining regulatory compliance and transactional integrity.

The regulatory framework, however, does not enforce SCA uniformly across all scenarios. Recognizing the potential for excessive friction in everyday use cases, PSD2 and the accompanying Regulatory Technical Standards (RTS) allow for several exemptions from SCA, under the condition that the transaction is deemed low risk and falls within certain thresholds. For instance, low-value payments under €30 may be exempt from strong authentication, unless a series of such payments cumulatively exceeds €100 or five consecutive transactions have taken place without SCA. Similarly, recurring transactions to the same payee may be exempt after the first payment has been authorized using SCA. These provisions are particularly relevant for services such as subscriptions or bill payments, where user expectations are shaped by seamless and uninterrupted flows.

The Visa regulatory guide [10] highlights the strategic role of these exemptions in preserving user experience while maintaining security standards. It underscores the importance of dynamic risk analysis systems that can assess, in real time, whether a particular transaction qualifies for exemption without compromising the overall integrity of the system. This flexibility has been vital for market adoption, particularly in competitive sectors such as e-commerce and digital banking, where even small increases in friction can lead to cart abandonment or decreased conversion rates.

A further layer of interpretive guidance has been provided by the European Banking Authority, which addresses the specific case of Account Information Service Providers (AISPs). The EBA clarified that while SCA is required when a user initially grants consent for an AISP to access their account data, it is not necessarily required for each subsequent access, provided the data retrieved is limited to non-sensitive information such as balances or transaction history. This distinction is critical for enabling real-time financial aggregation services, as repeated prompts for authentication would significantly degrade usability. The EBA's position thus strikes a balance between regulatory rigor and practical feasibility, ensuring that secure access does not become a barrier to service delivery.

Despite these technical allowances, the integration of SCA into consumer-facing applications remains a complex design challenge. Sacaleanu and Tak [11]emphasize that while compliance is non-negotiable, the way SCA is implemented can greatly influence user satisfaction. Poorly designed flows, particularly those that interrupt a payment journey or require app switching, can erode user confidence and increase the likelihood of payment abandonment. In contrast, seamless biometric authentication, in-app verification, or delegated authentication models can ensure both security and usability, making SCA not only a regulatory obligation but also a potential differentiator in digital service design. Overall, the operationalization of SCA within the A2A ecosystem illustrates

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[10] Visa. (2020). *PSD2 SCA regulatory guide*. https://www.visa.co.uk/content/dam/VCOM/regional/ve/unitedkingdom/PDF/sca/visa-psd2-sca-regulatory-guide-v1-december-2020.pdf

[11] Sacaleanu, R., & Tak, E. (2020). PSD2 secure customer authentication and customer experience: Ensuring a positive impact. Journal of Digital Banking, 5(2), 146–154.

the broader regulatory philosophy of PSD II: combining robust security with competitive innovation. By setting strict requirements while allowing flexible exemptions and nuanced implementation, the framework supports the emergence of new actors and payment models without undermining consumer protection or transactional trust.

The next crucial step in the EU's endeavor to promote a genuinely open, safe, and competitive digital payments ecosystem is the impending Payment Services Directive III and its companion Payment Services Regulation (PSR), which build on the framework established by PSD2. PSD3 aims to strengthen and expand the tenets that have supported the growth of Account-to-Account payments. It was approved by the European Parliament in 2024 and is expected to go into effect in 2025. The requirement that payment service providers give access to instant payment infrastructures is one of its most significant clauses; this modification directly contributes to the rise of real-time A2A transactions as a popular substitute for conventional card-based techniques. PSD III improves the accessibility and security of direct bank-to-bank payment flows by placing a higher priority on interoperability, improved anti-fraud coordination, and regulatory harmonization among Member States.

PSD III and the PSR work together to unlock and expedite the technology capabilities that enable A2A payments on a large scale. The adoption of standardized APIs that enable authorized Third-Party Providers to securely and with user agreement start payments or access account data is one example of how these new regulations closely mirror developments in Open Banking. Furthermore, PSD III brings new regulations pertaining to data sharing and responsibility, which facilitate speedier dispute resolution and increase customer confidence in digital-first A2A solutions. A2A innovation is based on regulation, but its practical application is made possible by technology. The primary enablers of A2A payments are examined in the following chapter, ranging from blockchain, which promises increased transparency and cross-border efficiency, to Open Banking APIs, which enable safe, real-time transactions.

III. Technological enablers of A2A payments

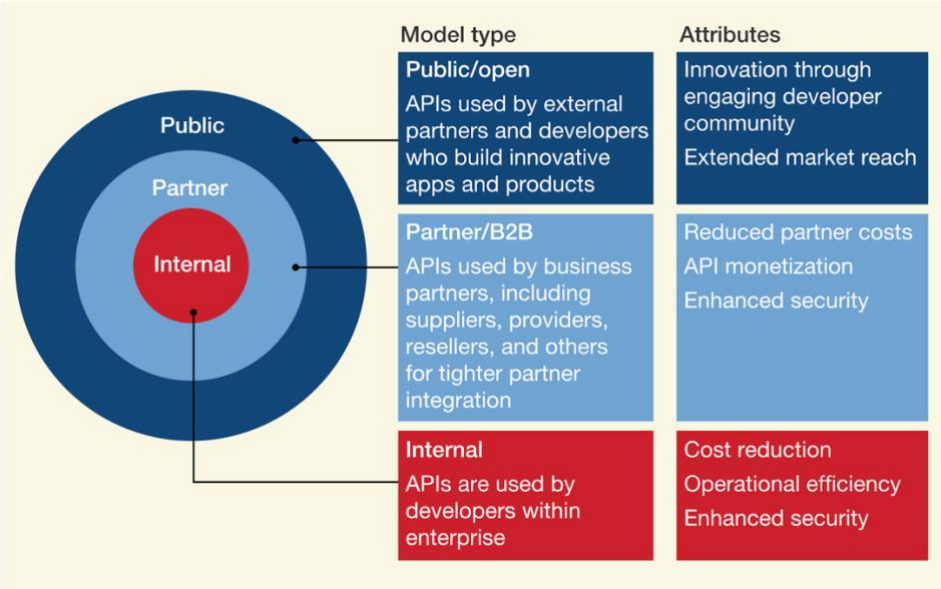
3.1 Open banking APIs and their influence on payment innovation

In the context of Account-to-Account payments, APIs provide the underlying infrastructure that allow third-party applications and services to communicate directly with users' bank accounts. They enable the initiation of payments, the retrieval of transaction data, and the verification of account holders, often in real time, without reliance on card networks or manual intervention. Historically, banks were closed systems with all-proprietary infrastructure and very few standardized ways to engage with external parties. Open banking fundamentally overturned the closed, proprietary infrastructure model traditionally maintained by banks. As examined in detail in Chapter II, regulatory frameworks such as the PSD II, compelled financial institutions to make selected services, such as payment initiation and account data access, available to licensed third-party providers via standardized APIs. This move set off a larger technological and cultural trend. Open banking's APIs are not only technical channels that make the creation of value possible in a digital economy that is interconnected.

APIs have evolved into strategic tools for financial organizations to gain a competitive advantage, collaborate across sectors, and create value in an increasingly interconnected digital financial environment. Functionally, they act as standardized and scalable interfaces, similar to modern finance's "universal sockets", that enable interoperability between various systems and actors. These interfaces allow licensed third-party providers and fintech platforms to access account-level data, confirm account balances in real time, and initiate payments straight from the end user's bank account. The API-driven model reconfigures the payment chain, allowing service providers to initiate transfers directly from the user's bank account. This not only accelerates settlement times but also gives merchants greater control over payment reconciliation and cost structures.

However, APIs are not uniform in design or purpose. Their role and impact within financial ecosystems depend largely on how they are structured and governed. Broadly speaking, APIs in banking fall into three categories: private, partner, and open.

Figure 3: Typology of API Models



Source: McKinsey & Company. (2023*). Data sharing and open banking.*

Private APIs are internal tools used exclusively within a financial institution to connect its own systems, such as linking back-end infrastructure to digital interfaces like mobile apps. Though invisible to outside actors, they play a critical role in modernizing legacy systems and enabling operational agility. Partner APIs are selectively shared with trusted third parties under contractual agreements. They allow institutions to collaborate with fintechs or technology providers, offering services like lending or insurance integration without relinquishing control over access. Finally, open APIs are publicly available interfaces governed by regulatory or industry standards. Under frameworks like the EU's PSD2, banks are required to expose certain functionalities, such as account information or payment initiation, to licensed third-party providers. This model has been central to the open banking movement, enabling a broader and more competitive financial ecosystem. Each type of API reflects a different balance between openness and control. As banks and fintechs deepen their interconnections, managing this balance becomes a strategic concern, especially in areas involving data security, competitive positioning, and compliance.

Within the context of Account-to-Account payments, they serve as the operational backbone that connects third-party providers with users' financial institutions, enabling

the seamless execution of payment instructions under regulated and secure conditions. This shift has radically transformed the mechanics of how interbank payments are initiated and processed. Where traditional A2A payments relied on delayed settlement windows, batch processing, and limited user visibility, today's API-enabled transactions are executed in near real time. Through standardized interfaces defined by open banking frameworks such as the European Union's PSD2, third-party providers can initiate a payment on behalf of a user, retrieve transaction confirmations, and integrate with supporting bank systems all within a streamlined digital flow.

A defining characteristic of this model is its "push-based" logic, wherein the account holder actively authorizes a transaction, as opposed to relying on external parties to "pull" funds under preauthorized mandates, a distinction previously examined in Chapter I. This structural shift enhances transparency, reduces the risk of unauthorized debits, and empowers users to maintain direct control over their payment activity. The authorization process is typically secured through Strong Customer Authentication, ensuring compliance with regulatory mandates and improving trust in digital payment channels.

In operational terms, APIs enable pre-transaction checks such as real-time balance validation, beneficiary verification, and fraud screening, thereby improving reliability and reducing the incidence of failed or reversed payments. These features are especially important for consumer-facing use cases, such as e-commerce and mobile checkout, but they are increasingly being adopted in the corporate space, where APIs support automated disbursements, treasury reconciliation, and real-time liquidity management. Most importantly, APIs serve as the interface layer between financial institutions and national real-time payment infrastructures, such as SEPA Instant Credit Transfers in the Eurozone. These infrastructures, in turn, provide the settlement speed required to complete the payment cycle with minimal latency. Although adoption of SEPA Instant is growing, uptake remains uneven across institutions and member states, limiting full market penetration. Technical and regulatory harmonization across the European landscape remains a work in progress.

Beyond the European Union, several jurisdictions have developed their own API-integrated real-time payment systems, each with varying degrees of openness, speed, and interoperability. However, these global implementations will be discussed in greater

detail in Chapter 4, which explores the international landscape of A2A payments and global innovation models. Beyond infrastructure, APIs are serving as catalysts for innovation across financial ecosystems.

The rise of open banking APIs has not only transformed the technical architecture of A2A payments but has also catalyzed the emergence of new business models and value propositions across the financial services landscape. By enabling direct, real-time connectivity between banks and third-party providers, APIs have become the foundation for a wave of innovation aimed at improving customer experience, operational efficiency, and commercial differentiation.

One of the most significant developments has been the strategic repositioning of incumbent banks. Historically cautious toward the disintermediating potential of third-party access, many traditional institutions are now embracing the opportunity to become platform providers in an API-driven ecosystem. Rather than treating regulatory mandates such as PSD2 as compliance obligations, leading banks have begun to monetize their internal capabilities by exposing curated APIs to external developers, fintechs, and corporate clients. This shift enables them to participate in a broader ecosystem of financial services without relinquishing control of their infrastructure. APIs are increasingly viewed as "digital products" in their own right, revenue-generating interfaces through which banks can commercialize access to payment initiation, identity verification, and transaction data streams.

At the same time, APIs have enabled a new generation of fintech innovators and non-bank actors to enter the payment space with lightweight, customer-centric solutions. These players are not encumbered by legacy systems and are thus able to design modular, API-first offerings that embed financial services directly into retail platforms, digital marketplaces, or enterprise software environments. Examples include "Pay by Bank" features integrated into e-commerce checkouts, dynamic installment payment plans, or real-time balance-linked spending controls. These embedded use cases are rapidly gaining ground as consumers seek seamless, intuitive payment experiences that are tightly integrated into their daily digital interactions[12]. For end users, the benefits of API-

[12] Capgemini. (2024). *World Payments Report 2025.* Retrieved from: https://www.capgemini.com/insights/research-library/world-payments-report

based A2A payments are largely invisible but materially impactful. Payment flows become faster, cheaper, and more secure. By eliminating the need to rely on card-based networks, API-enabled A2A payments reduce the number of intermediaries involved in a transaction, thereby improving speed and lowering the risk of data breaches. Moreover, APIs enable integration with personal financial management tools, offering real-time budget tracking, categorization of expenses, and cross-platform synchronization, all of which enhance financial literacy and control. In this sense, APIs not only facilitate transactions but also enrich the broader customer experience in a way that traditional payment infrastructures cannot.

Merchants, too, stand to benefit significantly from API-driven A2A payment capabilities. By bypassing traditional card schemes and acquirers, merchants can reduce transaction fees, gain faster access to settled funds, and access granular payment data that was previously intermediated. Merchants are increasingly drawn to open banking payment solutions as a way to lower costs and improve conversion rates, particularly when these solutions are integrated with loyalty, identity, or credit-scoring features[13]. The ability to reclaim control over the payment flow and associated customer data also opens up opportunities for differentiated service design and more personalized offers.

On a broader level, APIs are fostering a shift from products to programmable services. In the corporate and B2B sectors, for instance, APIs support the automation of treasury functions, enabling event-driven disbursements, on-demand cash positioning, and seamless reconciliation with enterprise resource planning (ERP) systems. These capabilities are not only operationally efficient but also strategically valuable, enabling businesses to manage liquidity in real time and tailor financial processes to the rhythms of their operating models. APIs are laying the groundwork for next-generation financial orchestration platforms that can adapt dynamically to evolving user needs.

While open banking APIs offer considerable promise, their implementation within the A2A payments landscape presents several challenges, both technical and strategic. One of the most pressing issues is the lack of uniform API standards across jurisdictions

[13] Cambridge Centre for Alternative Finance. (2024). *The global state of open banking and open finance.* University of Cambridge.

and institutions. As noted by the European Payments Council[14] and Fratini Passi[15], the coexistence of multiple frameworks, such as the Berlin Group, STET, and national-level initiatives, has resulted in divergent specifications, inconsistent user journeys, and integration complexity for third-party providers. This fragmentation undermines scalability and raises barriers for cross-border adoption.

In addition, data privacy and security concerns remain central. Although regulatory regimes such as the GDPR and PSD2 mandate strong customer authentication and consent management protocols, real-world implementations often vary, leading to uneven user experiences and vulnerabilities in the data-sharing process. Consumer trust is not solely a function of compliance, but also of perceived transparency, control, and usability. Another key constraint is API performance and uptime, which directly impacts the reliability of real-time payments. System outages, rate limits, and latency issues continue to affect PSPs' ability to deliver seamless experiences, particularly during peak usage or under multi-bank integrations. Lastly, the evolving role of liability between banks and third-party providers remains a point of friction, especially when transactions fail or are reversed. A shared governance model, backed by clear accountability frameworks, will be essential to building resilience and trust as API-based A2A systems mature.

As legislative frameworks and APIs pave the way for more fluid A2A payments, focus is shifting to solutions that can provide greater resilience, programmability, and automation. Blockchain is the next evolutionary step, changing static API endpoints into dynamic, self-verifying infrastructure for real-time financial transactions.

3.2 Blockchain and its role in A2A payment infrastructure

Blockchain is a distributed ledger system that allows for safe, transparent, and decentralized transaction recording without the need for a centralized authority. Each transaction is organized into a cryptographically linked block and added to a

[14] European Payments Council. (2023). *SEPA Payment Account Access Scheme Rulebook v1.1.*

[15] Fratini Passi, L. (2022). *Open banking and digital transformation in Italy: The current situation and the challenges ahead. Journal of Payments Strategy & Systems, 16(4), 358–368.*

chronological chain shared by a network of participants. In contrast to traditional databases kept by financial organizations, a blockchain is administered collectively by a decentralized network of nodes that utilize consensus methods to validate and append new transactions. Blockchain's fundamental change from centralized control to distributed trust makes it an attractive foundation for updating account-to-account payment systems.

In the context of digital payments, blockchain transforms the way value is transferred by enabling real-time, programmable, and verifiable transactions across geographically dispersed parties. Traditional A2A infrastructures, particularly in cross-border contexts, depend on intermediary banks, clearing houses, and correspondent networks. These actors introduce latency, complexity, and costs. Settlement often takes days, with reconciliation delays, foreign exchange friction, and inconsistent compliance checks. Blockchain addresses these limitations by enabling peer-to-peer exchange of digital value without reliance on intermediaries or asynchronous batch processing.

The operational model of blockchain allows for near-instantaneous settlement, cryptographic validation of ownership, and end-to-end traceability. Once a transaction is recorded on the ledger, it becomes immutable, allowing all parties to independently verify the transaction history without accessing sensitive personal data. This mechanism enhances trust while preserving privacy. It also simplifies compliance, as audit trails are automatically embedded in the ledger. This adds a powerful level of transparency to A2A payments, potentially reducing fraud, improving regulatory control, and streamlining reporting processes. A crucial aspect of blockchain’s value proposition lies in its ability to disintermediate. Blockchain allows direct interaction between sender and recipient, eliminating the need for a bank to manage the transaction. This not only reduces costs and delays but also opens the payments ecosystem to a broader range of participants. Individuals, merchants, fintechs, and even non-financial institutions can initiate and receive payments using digital assets without requiring a traditional bank account. This is especially impactful in contexts where financial access is limited or where traditional infrastructure is inefficient. The implications are far-reaching, as payments can be executed using only a digital wallet and a mobile device, significantly lowering the barrier to entry for both consumers and service providers.

Visa's Universal Payment Channel (UPC) concept reinforces this vision of a bank-optional payment infrastructure[16]. Digital currencies such as stablecoins and central bank digital currencies (CBDCs) should not require users to hold bank accounts to transact. Instead, smart wallets can connect directly to multiple blockchain networks via UPCs, allowing seamless transfer of digital value across platforms and jurisdictions. This architecture supports a world in which money is natively digital, programmable, and interoperable, where value moves as easily as information does on the internet. In such a system, A2A payments become inherently global, faster, and inclusive.

The programmability of blockchain further extends its usefulness in A2A transactions. Smart contracts, which are self-executing agreements encoded on the blockchain, can automate payment conditions, escrow functionality, and compliance logic. For example, a business could set up a smart contract to release payment upon confirmation of delivery or successful milestone completion. This removes the need for manual intervention and reduces counterparty risk, particularly in B2B and international commerce. Such features are difficult to replicate within traditional banking systems, which depend on third-party enforcement, time-consuming documentation, and centralized adjudication. Another significant benefit of blockchain in A2A infrastructure is its ability to unify fragmented payment ecosystems through interoperability. The proliferation of digital currencies, both private and sovereign, has led to concerns about compatibility across networks. Here again, Visa's UPC framework offers a solution: an overlay that facilitates secure interactions between various blockchain-based currencies, ensuring that users can transact across digital asset ecosystems without being locked into a single network. This model supports the seamless operation of cross-border A2A payments and anticipates the rise of a multipolar digital economy in which diverse currencies and infrastructures coexist. Blockchain also opens the door to innovations beyond conventional money transfers. As Mastercard observes, blockchain enables the tokenization of loyalty programs, where reward points are issued and transacted as digital assets. These tokens can be used in payments alongside fiat or stablecoins, allowing consumers to seamlessly blend rewards into daily spending. This expands the definition

[16] Visa. (n.d.). *Making digital currency interoperable*. Visa Perspectives

of value in A2A systems and supports integrated, multi-instrument transaction models that are not easily achievable through traditional rails.

Ultimately, blockchain provides a new foundation for A2A payments that is decentralized, transparent, secure, and programmable. It enables real-time, bank-less transactions, reduces operating and compliance costs, and supports innovation across industries and use cases. Far from simply digitizing existing payment processes, blockchain reimagines the flow of value in a way that is more aligned with the needs of a global, digital-first economy. By removing dependencies on traditional banking systems and enabling direct, trust-minimized settlement, blockchain positions itself not as a competitor to established payment networks, but as a parallel infrastructure, one that expands reach, enhances efficiency, and empowers new forms of economic participation.

However, despite its promise, current implementations have performance and cost restrictions that prevent widespread deployment. Public blockchains like Bitcoin and Ethereum enable only around 7 and 15-30 transactions per second (TPS), respectively, with confirmation times varying from minutes to an hour depending on congestion. In contrast, systems such as SEPA Instant may handle up to 10,000 TPS with settlements in less than 10 seconds. Transaction expenses are also a significant concern: Ethereum gas fees can reach $20-80 during peak hours, whereas Bitcoin fees normally range between $1-5. In comparison, SEPA Instant transactions frequently cost under €0.20 or are free.

To solve these concerns, Layer 2 solutions[17] (e.g., Lightning Network, Ethereum Rollups) and next-generation chains like Solana and Avalanche[18] provide better throughput (up to 5,000 TPS) and lower transaction costs, although they are still relatively immature and unproven in regulated financial environments. These trade-offs focus on blockchain's existing strengths in programmability, disintermediation, and cross-border efficiency, rather than cost-effective domestic transfers. While not yet a replacement for high-speed domestic A2A systems, as previously noted, blockchain is emerging as a complementary infrastructure, particularly useful for smart contracts,

[17] a general term for protocols that use the decentralized security of blockchain technology to grow blockchain applications by processing transactions off the main network (Layer 1).

[18] platforms natively designed to achieve higher throughput and lower transaction fees than traditional blockchains, using new architectures and consensus algorithms optimized for speed and scalability

digital wallets, and interoperable cross-border payments. However, fulfilling this goal will necessitate additional advancements in scalability, governance, and regulatory integration.

IV. From theory to practice: what it takes to enter the Italian A2A market

4.1 Trustly as a benchmark: lessons from a leading provider

Trustly is a Swedish fintech company founded in 2008, widely recognized as a pioneer in the Account-to-Account payments sector. Operating as a regulated payment institution in Europe and the United States, Trustly has built a proprietary infrastructure that goes far beyond the standard PSD2-compliant setup. With operations in over thirty countries, connections to more than 12,000 banks, and access to a potential user base of 650 million consumers, the company has processed more than €52 billion in transactions globally. This scale and reach position Trustly as one of the most mature and reliable A2A payment providers in the market.

At the heart of Trustly's value proposition lies its integrated infrastructure, which combines payment initiation, risk management, transaction routing, reconciliation, and settlement in a single proprietary stack. This end-to-end model is a key differentiator compared to many other open banking providers that act merely as technical intermediaries relying on third-party aggregation services or fragmented APIs. Trustly's infrastructure is designed to optimize both performance and reliability, particularly in real-time environments.

From a service perspective, Trustly enables three primary types of transactions: payins, recurring payments, and payouts. The payin functionality allows users to initiate payments directly from their bank accounts within merchant environments, using a seamless experience that recognizes previous users, reduces authentication steps, and delivers exceptionally high conversion rates. In Nordic countries, where banking APIs are mature and digital identity schemes like BankID are widely adopted, Trustly achieves conversion rates of up to 95 percent. The company has also reengineered SEPA Direct Debit for recurring payments, offering a fully digital mandate setup that enhances onboarding, reduces fraud, and improves payment success rates. Notably, it has developed alternative flows based on manual input to accommodate markets such as Italy, where app-based identity solutions are not universally used. This flexibility allows

Trustly to tailor its services to heterogeneous levels of infrastructure maturity across different geographies.

In the area of payouts, Trustly has developed a real-time, intelligent routing system that dynamically selects the optimal payment rail depending on destination country, transaction size, and time of day. This system leverages intra-bank networks, SEPA Instant, and TIPS, among others, and can ensure payout execution with zero fraud and full traceability. The firm claims to process such transactions in under 100 milliseconds, demonstrating a level of operational sophistication that is particularly relevant in contexts like gaming, marketplaces, and travel refunds.

Trustly's multi-functional, vertically integrated approach has enabled it to become the partner of choice for global companies across sectors such as e-commerce, travel, insurance, public utilities, and mobility. Its client portfolio includes major players such as Microsoft, eBay, Meta, Klarna, Unipol, and AirBaltic.

4.1.1 A fertile ground: The nordic advantage

The specific setting in which Trustly began and scaled is critical to understanding its success. The company's rise to become one of the most structured and advanced A2A providers is deeply anchored in the Nordic ecosystem, particularly in Sweden, where the conditions for open banking innovation have been exceptionally advantageous. The region has long been known for its high rates of digital banking adoption, near-universal access to digital identification systems like BankID, and a cultural preference for cashless transactions. These conditions, combined with a small number of interoperable banks and an early embrace of API-based financial services, produced an excellent environment for a provider like Trustly to experiment, scale, and enhance a vertically integrated model. Instead than navigating fragmented infrastructures.

Rather than navigating fragmented infrastructures or limited digital readiness, Trustly was able to focus on product optimization and scalability from the start. This distinct set of structural, technological, and behavioral enablers was critical in shaping the company's operational model and establishing a performance benchmark that is often difficult to

replicate in less standardized or more fragmented payment ecosystems, such as those found in Italy.

Nordic customers have consistently preferred digital and seamless financial services for more than a decade. According to Capgemini's World Payments Report 2025[19], Sweden is among the global leaders in cashless transaction volume per capita, with over 98% of users reporting daily use of digital banking services and less than 8% involving cash. In nations such as Finland and Denmark, similar trends dominate the financial landscape: mobile and internet banking adoption surpasses 90%, contactless payment usage is nearly universal, and physical currency is essentially obsolete in everyday transactions.

This behavior is rooted not only in digital expertise but in a broader culture of digital trust. Nordic consumers consistently score among the highest in Europe for openness to sharing bank account data, experimenting with alternative payment methods, and adopting fintech innovations. This cultural inclination is matched by highly secure and user-friendly infrastructures that support seamless, real-time interactions. A key pillar of this infrastructure is BankID, Sweden's national digital identity system used by over 94% of the adult population. Deeply embedded in both the public and private sectors, BankID enables consumers to authenticate transactions, including payments, tax filings, and government services, with minimal friction and maximum trust. For A2A providers like Trustly, BankID's integration enables real-time, SCA-compliant authentication flows that minimize drop-off and enable single-click confirmation of recurring mandates.

Regulatory alignment has fueled even more innovation. Even before the EU-wide PSD2 law went into effect, banks in Sweden and Finland were already disclosing account data and enabling payments via APIs, frequently through bilateral agreements or banking consortia. This early API readiness, paired with a relatively uniform banking landscape and limited legacy infrastructure, gave A2A providers a significant advantage in

[19] Capgemini. (2024). *World Payments Report 2025*. https://www.capgemini.com/insights/research-library/world-payments-report

establishing powerful, low-latency connections. It is no coincidence that Trustly developed from this atmosphere to become one of Europe's first and most scalable open banking payment providers. Meanwhile, public institutions have fueled the momentum. Nordic central banks and financial agencies have been aggressively promoting real-time payment systems. Sweden's RIX-INST real-time gross settlement system has been operational since 2022, enhancing the region's interaction with pan-European infrastructures like TIPS. According to ACI Worldwide, Sweden alone completed more than 1.2 billion real-time transactions in 2023, with forecasts of 2.1 billion by 2027, demonstrating the market's maturity and volume scalability.

The Worldpay Global Payments Report 2025[20] reinforces these trends with detailed regional data. In Finland, A2A payments account for 34% of e-commerce transaction value as of 2024, already surpassing card-based methods. This figure is forecast to grow to 42% by 2030, making A2A the dominant online payment method. Debit cards remain the preferred choice in physical stores, accounting for 58% of POS transactions, while cash has dropped to just 7%, with a projected decline to 4% by 2030. Similarly in Sweden, A2A payments comprise 31% of e-commerce value, with Swish and Trustly acting as central enablers. Sweden's total POS cash usage is among the lowest globally at 5% in 2024, forecasted to reach just 4% by 2030, confirming its role as a near-cashless society.

Consumers in both countries also demonstrate a strong preference for linking bank accounts as primary funding sources for digital wallets and payment apps. In Finland, for example, 54% of respondents fund their wallets via direct bank account links, compared to just 14% using credit cards. This signals not only trust in banking infrastructure but a continued shift away from credit-based instruments toward direct-from-account models. Crucially, the Nordic ecosystem demonstrates how consumer behavior, technology, legislation, and innovation can work together to create a scalable A2A payments architecture. Trustly's success was not solely due to technical agility, but also to a particularly supportive environment: one in which customers are digitally

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[20] Worldpay, LLC. (2025). *The global payments report: How consumer choice is changing commerce*. https://worldpay.globalpaymentsreport.com/en

empowered, banks are technologically open, and real-time, bank-based payments outperform cards. As markets across Europe and beyond seek to expand their A2A capabilities, the Nordic model provides a compelling example of what seamless, secure, and trusted payments may look like at scale.

This section uses Trustly's experience as a lens through which to understand the dynamics of entering new A2A markets. Swedish fintech has established itself as a global leader in account-to-account payments by building a fully integrated infrastructure stack, spanning pay-ins, payouts, and recurring payments, and by capitalizing on favorable conditions in digitally mature ecosystems such as Sweden and Finland. Its infrastructure is designed to optimize performance in real-time environments, and its service model combines payment initiation with intelligent routing, risk management, and reconciliation within a single stack.

Trustly's Nordic success is deeply rooted in structural advantages: early PSD2 readiness, high API maturity, widespread adoption of national digital identity systems like BankID, and a cultural inclination toward frictionless, real-time digital payments. In such environments, Trustly achieves conversion rates of up to 95%, powered by single-click authentication, biometric SCA, and instant settlement rails such as TIPS and RIX-INST. According to the Worldpay Global Payments Report (2025), A2A payments already account for over 30% of e-commerce value in Sweden and Finland, surpassing card-based alternatives. This is driven by strong consumer trust, near-universal adoption of digital banking, and consistent user experiences enabled by interoperable APIs.

However, Trustly's expansion strategy is not uniform. While the company has achieved rapid penetration in markets like Germany and the Nordics, its approach to Italy has been significantly more cautious and selective. According to Alessandro Biolchi, Head of Italy at Trustly, the company deliberately chose not to launch Payment Initiation Services (PIS) in the Italian market due to a confluence of technical, operational, and UX-related constraints that undermined conversion and confidence. This view is echoed and substantiated in the company's internal GTM Strategy – Italy document.

Trustly's internal market readiness assessment rests on three pillars: coverage, open banking user experience (OB UX), and settlement risk. Under the first dimension, coverage, the Italian banking sector presented immediate challenges. Unlike in the

Nordics, where fewer than ten integrations are sufficient to reach 90% of users, Trustly identified the need for 15 or more API connections in Italy, due to the fragmented nature of ASPSPs. While initiatives like CBI Globe offer partial standardization, implementation depth and performance vary significantly across institutions. This echoes the findings of Banca d'Italia[21], which cites inconsistent API quality and high error rates as persistent barriers for TPPs. The user experience dimension posed another serious challenge. While app-to-app redirection is technically supported by many Italian banks, the SCA journey is overly complex. Biolchi notes that for a first-time user, up to three SCA steps and two redirects may be required, a severe contrast to the seamless, biometric flows in Sweden supported by Mobile BankID. This inconsistency severely impacts conversion, particularly for mobile users. The ECB's SPACE study[22] corroborates this, indicating that Italian consumers exhibit lower digital trust and limited exposure to PIS-based flows, especially compared to their Northern European counterparts. The third strategic dimension, settlement risk, further diminished the attractiveness of launching full PIS services. While some historical concerns, such as payment revocation, have been addressed, uncertainties remain around fraud detection, AML filtering, and the granularity of API-provided payment status updates. Trustly's GTM documentation stresses the lack of visibility into transaction-level risk markers and payment confirmations. Additionally, the need to open local accounts in Italy, in order to mitigate IBAN discrimination and ensure reliable domestic routing, creates further operational overhead, particularly for verticals like gaming and remittance that are often considered high-risk. An additional layer of complexity stems from Italy's digital identity infrastructure. While SPID (Sistema Pubblico di Identità Digitale) has reached widespread usage, Trustly notes that integration with SPID for open banking flows remains commercially and technically unresolved. This contrasts with the Nordic region, where a single identity scheme (BankID) underpins authentication across the public and private sectors, streamlining payment flows and enabling seamless UX.

[21] Banca d'Italia. (2021). PSD2 and Open Banking: An overview of the main features and implications for banks. https://www.bancaditalia.it/compiti/vigilanza/analisi-sistema/approfondimenti-banche-int/2021-PSD2-Open-Banking.pdf

[22] European Central Bank. (2022). Study on the payment attitudes of consumers in the euro area (SPACE). https://www.ecb.europa.eu/stats/ecb_surveys/space/html/ecb.spacereport202212~783ffdf46e.en.html

In response to these structural challenges, Trustly has adopted a phased market approach. Rather than pushing forward with underperforming PIS flows, the company has focused its Italian efforts on less infrastructure-dependent services such as AIS (for account validation and onboarding), SEPA Direct Debit (SDD), and instant payouts, which are particularly valuable in verticals like insurance (e.g., Unipol), streaming, fitness and gyms, and online gaming. These services allow Trustly to deliver commercial value while avoiding the conversion risks and compliance friction associated with PIS. In light of these constraints, Trustly made a strategic decision to delegate its Italian lead generation and local activation efforts to DoubleP, since it is a consultancy firm with a strong foothold in the national fintech and payments ecosystem. As Alessandro Biolchi highlights, the collaboration with DoubleP goes well beyond standard commercial brokerage: in addition to identifying potential merchant leads, DoubleP provides Trustly with market intelligence, contextual UX feedback, and regulatory navigation, resources that would be difficult to replicate given Trustly's limited direct presence in Italy. This partnership model reflects a broader lesson from Trustly's playbook: that in challenging or heterogeneous markets, deep local insight and embedded relationships are just as critical as technical readiness.

In terms of branding, Trustly's visibility in Italy remains limited compared to its footprint in more mature A2A markets. As Biolchi notes, the services deployed locally, primarily SEPA Instant payouts and SEPA Direct Debit via SlimPay, operate largely behind the scenes and are integrated into other platforms (e.g., PayPal, Wise). Unlike in the Nordics or the UK, where the Trustly name is visible at checkout and reinforced by consumer marketing, Italian users typically engage with Trustly's infrastructure without encountering the brand directly. This infrastructural presence does create value, particularly in terms of reliability and speed, but it limits brand equity and user recognition, two factors that are often pivotal when launching consumer-facing PIS flows. This contrast highlights an important lesson: the ability to shape end-user perception is closely tied to product visibility and channel control, which Trustly has deliberately chosen to postpone in the Italian context. Perhaps most critically, these constraints produce systemic effects on conversion. According to Biolchi, Italian payment flows consistently underperformed relative to other EU markets. High drop-off rates, poor authentication UX, and opaque risk indicators ultimately led the product team to halt

rollout plans for PIS. Instead, Trustly maintains a strategic presence through AIS and recurring SDD, awaiting infrastructural and regulatory improvements before re-engaging with full payment initiation.

This strategic posture illustrates a broader lesson: brand strength and technical excellence alone are not enough to overcome fragmented infrastructure, regulatory friction, and localized user skepticism. Even a well-capitalized provider with deep European experience must adapt to the specific contours of the Italian market, both culturally and technologically. As Fratini Passi[23] and Deloitte[24] also note, Italy is now a "watch" market, promising in long-term potential, but constrained by poor UX, low merchant adoption, and API inconsistency.

In this light, Trustly's experience should not be read as a failure to scale, but rather as a strategic calibration to local conditions. The next section will explore these conditions in greater detail, examining the technical, behavioral, regulatory, and commercial factors that any A2A provider must navigate to achieve success in the Italian market.

4.2 The conditions for entering the Italian A2A market

Italy's payment landscape is defined by a unique dualism: it is at once a cash-resilient economy with deeply rooted consumer habits, and a dynamic space where digital transformation is gradually taking hold. Unlike Nordic countries where frictionless bank-based payments are deeply embedded in daily life, Italy remains shaped by structural complexity, legacy infrastructure, and a diverse ecosystem of financial actors. As outlined in DoubleP's Fintech Bridge white paper[25], the market features a mosaic of players, from traditional banking groups and Poste Italiane to fintech challengers and local wallet providers, each operating within a regulatory environment that is supportive on paper

[23] Fratini Passi, L. (2022). *Open banking and digital transformation in Italy: The current situation and the challenges ahead. Journal of Payments Strategy & Systems, 16(4), 358–368.*

[24] Deloitte. (2023, September). *Present and future of account-to-account payments*. https://www.cecabank.es/eng/presentacion-del-informe-presente-y-futuro-de-los-pagos-cuenta-a-cuenta/

[25] DoubleP. (2025). *Your Fintech Bridge to Italy: A must-read for those entering the Italian market* (White paper). https://doublep.consulting

but fragmented in practice. The ongoing rollout of the national recovery plan (PNRR) and digitalization efforts are shifting momentum, but at an uneven pace across regions and sectors.

From a consumer standpoint, habits continue to reflect a strong preference for prepaid and debit card instruments. Data from the Worldpay Global Payments Report 2025 confirms that Italy has one of the highest rates of prepaid card usage globally, 12% at point-of-sale and 16% in e-commerce, driven by PostePay's market dominance and consumers' enduring sensitivity to privacy and financial control. Debit cards account for the largest share of in-store payments (30%), while cash still represents a substantial 25%, well above the European average. A2A payments, though present through solutions like MyBank and Satispay, remain a minority channel: just 8% of e-commerce and 7% of POS transactions are completed via direct bank transfer. Meanwhile, digital wallets like PayPal and Bancomat Pay are gaining popularity online, yet their reach in physical retail remains modest. In contrast to markets such as Sweden, where integrated ID systems (e.g., BankID), real-time settlement, and extensive utilization of PISPs like Trustly have established a cohesive open banking framework, Italy's infrastructure remains fragmented, as highlighted by Alessandro Biolchi in his remarks on Trustly's go-to-market strategy. The lack of a single digital identity system, substantial fragmentation in API implementations, and varied compliance among banks all contribute to an unequal technical landscape. While legal frameworks such as PSD2 have opened up new avenues for innovation, actual use of services such as AIS and PIS in Italy remains low, as underlined by Banca d'Italia in its 2021 report. Open banking transactions are still uncommon, with mistake rates, functional constraints, and redundant SCA stages frequently causing friction between providers and users. At the same time, the entire user experience provided to TPPs continues to lag behind that of traditional banking channels, illustrating a greater struggle between compliance and competitiveness.

All these aspects combine to create an environment that is both rich in promise and complex in terms of structure, behavior, and technology. Navigating this setting for a technology provider, particularly one delivering account-to-account solutions, necessitates a thorough understanding of not only the legislative framework, but also the operational, infrastructural, and cultural factors that impact acceptance. These frictions

do more than only slow down innovation; they also assist in defining market access criteria, influencing both a new entrant's strategy and business model.

Despite promising signals of regulatory and infrastructural maturation, entering the Italian A2A payments market remains a nontrivial endeavor. The structural challenges previously discussed in the context of Trustly's cautious approach, including fragmented API infrastructure, complex SCA implementations, and inconsistent data transparency, are not distinctive, but symptomatic of broader market conditions. Any prospective provider must contend with a dense matrix of technical, regulatory, behavioral, and commercial hurdles, each of which decisively shapes adoption outcomes and platform viability. Technically, the ecosystem is still hindered by divergent API implementations, limited authentication standardization, and patchy support for seamless user journeys. As underscored by both Alessandro Biolchi and recent industry studies, achieving meaningful bank coverage can require more than 15 separate integrations, with real-time performance often compromised by inconsistent latency, redirect complexity, and error-prone authentication chains. These constraints not only lower conversion but reinforce a comparative UX deficit vis-à-vis cards and wallets. As highlighted by Worldline (2024), even technically robust flows can fail commercially when end-users lack trust or contextual understanding, underscoring the importance of merchant communication and payer education at checkout.

From a regulatory standpoint, while the forthcoming PSD3 and PSR reforms promise to harmonize access rights and API standards across Europe, enforcement gaps and legacy practices continue to produce operational friction in Italy. These institutional frictions are compounded by commercial inertia: consumers still gravitate toward familiar instruments such as prepaid cards and digital wallets, while many merchants lack the technical readiness or strategic clarity to champion A2A options. As Biolchi remarked, without aligned incentives or visible merchant backing, even best-in-class providers risk underperformance. Risk management adds another layer of complexity; the shift to cardless payments increases vulnerabilities like account takeover and inconsistent SCA enforcement. For PISPs, this necessitates investment in real-time fraud detection, behavioral analytics, and secure integrations, capabilities that depend not only on internal sophistication, but also on the transparency and quality of data exposed by ASPSPs. The absence of clear, real-time status reporting, another issue raised by Trustly, makes

effective settlement and reconciliation harder to guarantee. Finally, the behavioral dimension remains a critical bottleneck. While digital adoption is improving, widespread consumer skepticism persists around data security, payment reversibility, and authentication friction. The lack of a national identity scheme with the seamless usability of Sweden's BankID further complicates the user experience, reinforcing the perception that A2A is less convenient or secure than traditional methods. Building trust in this context is not merely about compliance, it requires infrastructure, communication, and ecosystem alignment.

In sum, the systemic constraints observed in Trustly's go-to-market experience reflect the persistent barriers that any new entrant must carefully evaluate, from fragmented bank APIs and inconsistent SCA flows to limited merchant enablement and cautious consumer adoption. Yet, this landscape is not static. Recent developments across regulation, infrastructure, and institutional strategy suggest that Italy may be entering a new phase: one where long-standing frictions begin to give way to structural enablers.

As a matter of fact, although the Italian market has long been considered a challenging environment for the development of open banking-based services, recent regulatory, infrastructural, and strategic developments suggest that conditions are becoming increasingly favourable for the deployment of payment initiation services. At the regulatory level, the forthcoming Payment Services Directive 3 (PSD3) and accompanying Payment Services Regulation (PSR) are designed to address several critical weaknesses identified under PSD2. In particular, these reforms aim to strengthen the enforcement of TPP access rights, standardise the technical specifications and quality of bank APIs across Europe, and improve fraud prevention by promoting more consistent data sharing. This regulatory evolution is especially significant for the Italian context, where, as highlighted in the Banca d'Italia (2021) report and by Fratini Passi (2022), performance gaps between bank-owned channels and TPP-facing APIs have contributed to poor user experiences and high error rates. Alongside these changes, the adoption of the Instant Payments Regulation (IPR) in 2024 marks a critical shift in the technological baseline: the regulation mandates the availability of euro-denominated instant credit transfers within 10 seconds, 24/7, at no additional cost compared to traditional SEPA transfers. For a country like Italy, where instant payments had remained marginal and inconsistently supported, this new obligation compels banks to upgrade their

infrastructure, fraud filters, and liquidity management systems. These improvements, while intended to benefit all PSPs, are particularly relevant for PIS providers, whose business models rely on real-time processing, reliable messaging, and secure authentication.

From an infrastructural standpoint, Italy has made progress in consolidating its fragmented API ecosystem. CBI Globe, the open banking standard developed by the Italian banking community, has now been adopted by a large majority of national banks and continues to evolve toward greater performance consistency. While some degree of heterogeneity remains, especially in how banks support biometric identification and app-to-app redirection, the technical capabilities of the platform have improved significantly compared to earlier years. In parallel, Italian banks are increasingly integrated into TIPS (TARGET Instant Payment Settlement), the European platform for real-time clearing and settlement in central bank money. This enhances the stability and scalability of the rails on which A2A payments operate and aligns the Italian market more closely with pan-European standards. Together, these infrastructural advances help reduce the integration burden for new entrants and make PIS flows more technically viable.

At the institutional level, there are growing signals of a strategic shift toward supporting A2A payment models. A particularly symbolic example is Bancomat S.p.A.'s acquisition of Flowpay, a fintech specialized in open banking and digital payments. While this move can be interpreted as a standard vertical consolidation, it also reflects a deeper change: the shareholders behind Bancomat, primarily Italian banks, are signaling a collective interest in developing an ecosystem in which open banking can thrive. This is a meaningful indicator of institutional alignment, demonstrating that incumbents are no longer merely tolerating open banking but are actively investing in its future. Similar intentions are visible at the European level, where Italy participates in the European Payments Initiative (EPI) and other projects aimed at developing continental alternatives to global card schemes. These initiatives reflect a desire not only to modernize the domestic payments infrastructure, but also to reposition European financial services as globally competitive and digitally sovereign.

Consumer dynamics, while slower to evolve, are also showing signs of change. Although Italians have historically favored cards, particularly prepaid debit, and cash, digital adoption is rising steadily. Mobile banking usage, e-commerce penetration, and familiarity with two-factor authentication are all increasing, lowering the behavioral

barriers to PIS-based payment experiences. According to the Worldpay Global Payments Report (2025), digital wallets and app-based transactions continue to grow in popularity in Italy, particularly among younger demographics and urban consumers. While it is true that some friction remains in the authentication flows and that biometric SCA is not yet standardized across banks, the general trajectory of consumer readiness is positive.
All things considered, while Italy still presents challenges in comparison to more digitally mature markets, the cumulative impact of regulatory reforms, infrastructure consolidation, institutional commitment, and gradual consumer behavioral shifts suggests that the market may now be reaching a turning point. For providers of PIS services, especially those with experience navigating heterogeneous banking environments, this moment may represent a structurally favorable window for entry. By aligning with ongoing developments, such as the implementation of PSD3, IPR compliance, and API standardization through CBI Globe, firms may not only overcome legacy barriers but position themselves as first movers in a market that has long been overlooked, yet now appears increasingly prepared to support scalable, bank-based payment innovation.

In this light, Trustly's hesitance must not be interpreted as a definitive verdict on the Italian market, but rather as a strategic pause in the face of conditions not yet aligned with its standard operating model. It serves as a compelling reminder that success in fragmented markets cannot be brute forced through scale or brand recognition alone. Instead, it requires a willingness to adapt, technically, commercially, and culturally, to the distinct rhythms of each geography.

This is precisely where new players may find opportunity. Italy's current inflection point, marked by regulatory modernization, API standardization efforts, and growing institutional interest in open banking, invites a different kind of entrant: one willing to experiment within existing constraints, engage directly with local infrastructure, and build user trust from the ground up. The next chapter explores such a case, the strategic entry of Inespay, a Spanish PISP that has chosen to embrace the Italian market not despite its frictions, but by designing a go-to-market strategy precisely around them.

V – Launching Inespay in Italy

5.1 Inespay's proposition and the rationale for Italy

Inespay was founded in Valencia in 2016 by Víctor Pardo (CEO) and Carlos Castellanos (COO), with a clear vision: to democratize online payments by enabling users and merchants to pay directly from their bank accounts, without relying on traditional card-based instruments. Positioned as a Payment Initiation Service Provider authorized by the Banco de España, Inespay introduced its flagship offering, Transferencia Online, to streamline e-commerce pay-in flows via instant bank transfers, all while maintaining a minimalist, three-step process that redirects users to their banks' platform for authentication.

Since its first payment license in early 2020, the company has steadily scaled, achieving processing volumes of over €600 million annually and serving merchants like Decathlon, PC Componentes, and Carrefour Viajes. Its 2022 angel funding round, led by Angels Capital, has helped consolidate its Iberian presence and pivot toward broader European expansion.

In its home market of Spain, Inespay operates in a significantly more favorable environment for A2A innovation. As highlighted in the Worldpay Global Payments Report 2025[26], the Spanish market is experiencing a robust growth trajectory for account-to-account payments, boosted by initiatives like Bizum and supported by consumer behavior that is increasingly open to bank-based digital flows. In 2024, A2A payments in Spanish e-commerce reached 12% of transaction value, substantially higher than Italy's 8%, and are forecast to climb steadily through 2030. Spain also shows greater API and UX maturity, as well as a proactive regulatory stance, with services like Bizum preparing to enter the POS environment in 2025 via NFC-based integrations. Against this backdrop, Inespay has built its reputation not simply as a technical provider, but as a visible enabler of Spain's open banking transition. It's clear merchant-facing value proposition and active collaboration with regulatory bodies have made it a recognizable player in the ecosystem.

[26] Worldpay, LLC. (2025). The global payments report: How consumer choice is changing commerce. https://worldpay.globalpaymentsreport.com/en

The success of Bizum in Spain is particularly relevant for understanding the broader A2A landscape into which Inespay has emerged. Bizum, launched in 2016 as a collective initiative of Spanish banks, was designed to simplify bank transfers by embedding them directly into banking apps and offering a unified, standardized user experience. It quickly became a mass-market service for instant peer-to-peer payments and later expanded into e-commerce and point-of-sale transactions. By 2023, Bizum had surpassed 23 million users, representing more than 60% of Spanish adults, and had established itself as the cultural and technological reference point for bank-based payments in the country. In this sense, Bizum normalized the use of account-to-account transfers for everyday transactions, creating the conditions for consumer trust and widespread acceptance of A2A solutions.

Inespay's trajectory differs significantly from that of Bizum, even though both have contributed to the strengthening of the Spanish A2A ecosystem. Whereas Bizum is a consumer-facing scheme owned and operated by the banking sector, Inespay is an independent PISP oriented toward merchants and focused on pay-in services through instant credit transfers. Instead of building a consumer network, Inespay has concentrated on integrating directly with bank APIs to provide merchants with a reliable, cost-efficient alternative to cards at checkout. This distinction is important: Bizum leveraged collective action and scale effects to establish cultural legitimacy for A2A, while Inespay has positioned itself as the infrastructure player that can translate this cultural shift into a commercial payments proposition. In practice, the two operate in a complementary fashion, with Bizum driving user adoption and Inespay channeling that momentum into business-oriented payment flows that can be exported to other markets.

By contrast, the Italian market remains more cautious and fragmented. As recalled both at the start of this chapter and in Chapter 4, account-to-account payments in Italy account for just 8% of e-commerce and 7% of POS transaction value in 2024, lower than the 12% e-com share registered in Spain, and consumer reliance on prepaid cards remains among the highest globally. Despite the relative delay, Italy is increasingly displaying symptoms of structural change. The Paypers Account-to-Account Payments Report 2025 highlights how Italy, despite remaining a developing market in terms of A2A maturity, is on a path of gradual progression, aided by upcoming regulatory reforms. Consumer acceptance is slower than in Spain and Northern Europe, but retailers are

becoming more aware of the opportunity to diversify payment methods and minimize reliance on card systems. This asymmetry, between consumer conservatism and retailer hunger for cost-effective payment methods, creates an ideal environment for specialized suppliers to establish a presence in advance of broader societal shifts.

Given the significant similarities between Spain and Italy in terms of banking structure, customer preferences, and regulatory pace, Inespay's choice to enter the Italian market can also be interpreted in the larger framework of Southern European markets. Inespay saw Italy as a logical next step after solidifying its position as the market leader in Spain. It is a sizable market that is structurally and geographically similar, but it is still underserved in terms of cutting-edge A2A payment services. Thus, Italy presents both a challenge and an opportunity. The problem is overcoming deeply established card-related behaviors and automating procedures that have been primarily manual up until now. The opportunity is to have early access to a market that is only now starting to open to bank-based digital flows. This strategic step has been made possible by the collaboration with DoubleP. Inespay chose Italy to make sure that the appropriate local knowledge could serve as the foundation for its operations, not just to expand geographically. Inespay's decision to enter Italy was largely influenced by DoubleP's extensive experience in the digital payments industry and its capacity to facilitate both technical and commercial localization. Beyond the simple functional features, DoubleP helps to match the company's offering with the demands of Italian retailers by making sure that communication tactics, support services, and interfaces meet local requirements. By serving as a reliable conduit between a foreign player and Italian institutions, banks, and merchants, the partnership lowers the risks associated with entering a conservative and fragmented market, making it more than just an instrumental element. The unique approach Inespay is taking to the Italian market is equally important. Inespay has opted to interact directly with Italian banks and authorities, in contrast to some competitors who have created aggregation methods to get around the irregularities of national APIs. Since uncontrolled connectivity alternatives are not accepted nor allowed, this is not only the legal path, but it is also a calculated decision that demonstrates the company's long-term focus.

Inespay hopes to develop a breadth of expertise and operational resilience that will set it apart when PSD3 and the new Payment Services Regulation take effect by embracing the challenges posed by diverse APIs and intricate authentication procedures. Inespay is

putting itself in a position to gain from this change by already understanding the complexities of the environment. These reforms are anticipated to force greater standards of dependability and service quality on banks, which will gradually enhance the infrastructure.

Inespay stands out for its dedication to identifying and resolving the underlying reasons behind unsuccessful transactions, rather than just adhering to the law as it stands. Whenever a user is unable to make a payment, Inespay investigates the issue thoroughly, regardless of bank or transaction size, using these cases as opportunities to accumulate knowledge of how Italian APIs behave in practice. Over time, this has given the company an unusually detailed view of the landscape, including where UX frictions occur and where systemic improvements are most urgent. Other companies could place more emphasis on speed to market and scalability, but Inespay sets itself apart by fusing technological dedication with regulatory discussion, serving as both a service provider and an ecosystem developer.

Although the specifics of these initial experiments will be covered later in this chapter, early testing has already proven both potential and challenges. For the time being, it is enough to emphasize that integration in Italy is neither uniform nor linear: strong ties coexist with enduring obstacles. These early experiences demonstrate that Italy is still a competitive market for A2A providers, but they also show that Inespay enhances its value proposition by resolving these conflicts.

5.2 Building API readiness through institutional engagement

The development of account-to-account payments in Europe rests not only on technological progress but equally on the capacity of institutional actors to ensure that regulations are translated into functioning infrastructures. As discussed in Chapter 2, the European Banking Authority (EBA) established detailed Regulatory Technical Standards under PSD2, and, as noted in Chapter 3, the technical quality of APIs and the design of strong customer authentication (SCA) processes are crucial for the user experience. Yet these regulatory and technological pillars are only part of the story. In practice, a third element is necessary: a process of continuous engagement between regulators and market participants to bridge the gap between legal intent and practical usability.

The European Central Bank has recently underlined that, compared with other policy domains, prudential and supervisory frameworks have not yet fully articulated how supervisors should assess the risks arising from digital transformation in banking, nor how institutions should manage them. This "regulatory lag" between innovation and oversight creates a structural space where industry actors themselves become essential information channels for supervisors[27]. Similarly, the EBA has repeatedly had to clarify issues raised by its Working Group on APIs under PSD2, such as the availability of interfaces, embedded redirection, the scope of consent, and the inability of some APIs to support bulk payment initiation[28]. These examples show that what is formally compliant on paper often requires iterative corrections to become compliant in practice. Against this backdrop, lobbying and institutional collaboration cannot be reduced to rent-seeking or attempts to influence rules ex ante. Instead, they constitute a form of market maintenance, in which third-party providers and payment initiation service providers feed empirical evidence of frictions back to national competent authorities (NCAs). This feedback loop contributes to shaping market conditions and reducing technical debt, thereby enabling A2A payments to emerge as a credible alternative to card-based infrastructures. The case of Inespay in Spain illustrates this process particularly well, demonstrating how constructive engagement with the Banco de España was instrumental in surfacing and correcting frictions in API-based payment initiation.

Spain offers a particularly relevant case study for understanding the strategic value of institutional collaboration. From an infrastructural perspective, the country has been among the frontrunners in Europe in the adoption of instant payments. According to Iberpay, in 2023 Spanish banks processed over one billion instant credit transfers, representing a 22.8 per cent year-on-year growth and reaching a 54 per cent migration rate from traditional credit transfers, compared with an EU average of around 15 per cent[29]. This suggests a strong foundation for the development of PIS-based retail payments. On the regulatory side, the Banco de España serves as the competent national authority supervising the application of PSD2, including the oversight of payment

[27] European Banking Authority. (2023). Single Rulebook Q&A: Public Q&A 2023_6767.

[28] European Banking Authority. (2021, October 20). EBA publishes clarifications to the seventh set of issues raised by its Working Group on APIs under PSD2.

[29] Iberpay. (2024, February 1). Instant Credit Transfers grow by 22.8% in 2023 in Spain.

institutions, security incidents, and compliance with strong customer authentication. In its own analysis of the "access to accounts" regime, the central bank highlighted how PSD2 enables new actors, such as AISPs and PISPs, to establish direct relationships with customers while setting clear requirements for secure communication channels and authentication procedures[30]. Nevertheless, the same analysis acknowledged that implementation challenges remained, particularly in aligning theoretical compliance with market practice.

It was in this context that Inespay developed a proactive strategy of lobbying-as-collaboration. As the company explained, regulators *tend to think everything is going very well, but the reality is generally quite different* (C. Castellanos Pedro, Founder of Inespay, personal interview, 26 August 2025). The firm therefore engaged unsystematic communication with the Banco de España to highlight specific functionalities or features of APIs that were not working as required by regulation, with the aim of ensuring that the Spanish Instant Payments system could perform as designed. This strategy directly addressed one of the main user experience frictions of the Spanish market, namely the reliance on account information service (AIS)-based APIs for payment initiation journeys. Many Spanish banks had repurposed AIS interfaces for PIS use, thereby creating redundant authentication steps and multiple consent screens that increased drop-off rates and undermined the efficiency of A2A payments.

By reporting these shortcomings to the regulator, Inespay sought to close the perception gap between regulatory authorities and market reality. The initiative mirrors the clarifications later issued by the EBA at the European level, which confirmed that issues such as embedded redirection, scope of consent, and lack of bulk payment functionality were common across member states. In the Spanish case, Inespay's interventions contributed to raising supervisory awareness and placed pressure on banks to provide purpose-built APIs for PIS activity rather than relying on repurposed AIS flows.

The Spanish experience illustrates two important insights. First, lobbying in this context is not antagonistic but collaborative: it functions as an ecosystem-correcting mechanism that helps regulators enforce not just the letter but also the spirit of PSD2. Second, it

[30] Banco de España. (2018). A new regime for access to payment accounts in the EU (PSD2): Regulatory and supervisory challenges (Financial Stability Review, 35, 79–103)

highlights the complementarity between infrastructure and supervision. The existence of instant rails such as those managed by Iberpay provides the technical backbone, but it is the supervisory willingness to address UX frictions that ultimately determines whether A2A payments can scale. In this sense, Inespay's collaboration with the Banco de España represents an important case of how institutional engagement can actively shape the trajectory of payment innovation.

5.3 From strategy to execution: testing and localization

Before examining the technical and operational aspects of Inespay's entry into Italy, it is important to underline the company's strategic choice of positioning within the open banking landscape. Historically, many European fintech companies in this space have pursued an infrastructure-first model, seeking to connect the widest possible range of APIs while remaining invisible at the consumer interface. Their value proposition has been to act as a neutral layer enabling connectivity, with little or no investment in brand recognition.

Inespay, by contrast, has deliberately aligned itself with the minority of providers, such as Trustly, that pursue a visible and recognizable presence at the point of payment. Trustly has been able to amplify this positioning with significant marketing resources, including sponsorship campaigns in high-profile contexts such as West End sports, which have made its brand increasingly familiar to consumers. Inespay, operating on a more limited budget, has chosen a pragmatic strategy that nevertheless serves the same end: ensuring that its function is immediately intelligible to the user. In Spain, the service is presented as *transferencia bancaria*, and in Italy as *bonifico online*, designations that remove ambiguity and make clear that the solution is a straightforward online bank transfer. Such straightforward labelling lowers cognitive barriers and enhances user trust, which is particularly relevant in markets where A2A payments are still unfamiliar. Equally, Inespay's approach to market expansion differs from the hyper-scaling model of API aggregators. Rather than attempting to spread thinly across multiple jurisdictions, the company has focused initially on Spain and Italy, two markets with high potential for A2A adoption but still underserved in terms of mature providers. This focus allows Inespay to refine its product as a genuine payment solution integrated into e-commerce

environments, rather than positioning itself merely as a technical connector of APIs. In other words, Inespay is not content with providing access to banking rails; it aims to become a recognizable and trusted payment method at checkout.
This strategic decision to foreground branding and clarity sets the stage for the operational choices examined in the remainder of this section. As Inespay moved from strategy to execution, its efforts in Italy involved not only testing APIs with major banks and addressing authentication inconsistencies, but also ensuring that localization, from translation to customer support to merchant education, reinforced its positioning as a user-friendly, consumer-recognizable A2A solution. Unlike in several EU markets where banks provide functional sandboxes to simulate payment initiation, Italian banks typically offer limited or non-functional testing facilities. Inespay therefore opened real accounts across multiple institutions to run live PIS tests, resource-intensive, but the only way to observe actual API behaviour.

Before opening dedicated test accounts, the project team began by experimenting with Inespay's product on DoubleP's personal bank accounts. The purpose of this informal stage was to gain an immediate, hands-on sense of how Italian banks' APIs behaved in real conditions, even before engaging in a structured onboarding process. Several members of the team volunteered: one attempted to use Intesa Sanpaolo, another Mediolanum, another UniCredit, while a further trial was conducted with Fineco. Of these attempts, only Fineco allowed a transaction to be completed successfully. In the other cases, the flows often resembled those of an AIS journey rather than a pure PIS, requiring excessive access to account information or demanding multiple layers of identification. In some instances, the journey appeared to proceed correctly but ended with a failed payment message; in others, instant transfers were blocked outright. Although informal, these first trials immediately demonstrated the degree of heterogeneity and fragmentation in the Italian market. They also highlighted the gap between theoretical PSD2 compliance and the lived experience of users, for whom technical barriers, AIS-like requirements, and unexplained errors made account-to-account payments less straightforward than card-based alternatives. In contrast to other European markets where banks provide test environments or sandboxes for third-party providers to recreate payment initiation flows, Italian banks often provide limited or non-functional testing facilities. As a result, Inespay could not use pre-production environments to test API functionality. As a result,

the organization had to open genuine accounts with multiple banks and use them directly for payment initiation tests. This approach, while more resource-intensive, provides a clearer and more realistic view of how APIs perform in practice while also revealing the breadth of variation across banks.

So, following this exploratory stage, Inespay advanced to a more systematic phase of testing by opening dedicated accounts with five major banks: Crédit Agricole Italia, UniCredit, Intesa Sanpaolo, Banco BPM, and BPER Banca. Together, these institutions offered a representative cross-section of the Italian banking landscape in terms of size, customer base, and diversity of API implementations. The process of establishing these accounts, and subsequently attempting to execute transfers, provided a detailed view of the procedural frictions that persist across the Italian market. At Crédit Agricole, the testing process revealed serious limitations regarding instant transfers. Transactions were systematically blocked and returned error messages instructing the account holder to contact the branch for verification. These anti-fraud mechanisms, while designed to protect customers, effectively prevented the execution of instant payments without offline intervention. For a PISP, this undermines the very proposition of automated, digital bank transfers: instead of an immediate, end-to-end process, the flow required branch-level involvement, contradicting the efficiency that A2A payments are supposed to offer. The case of Intesa Sanpaolo was similar. Ordinary credit transfers could be completed, but when instant transfers were attempted, the system imposed additional verification requirements. The user was prompted to confirm their identity either by uploading a passport, electronic identity card, or biometric selfie, or by making an appointment at a branch. These additional checks, captured in the bank's own mobile interface, illustrate how instant payments in Italy are still often coupled with legacy procedures that interrupt the digital journey. For merchants relying on real-time settlement, these steps neutralize much of the competitive advantage of instant A2A compared with cards or wallets. UniCredit introduced different kinds of friction, linked more to onboarding than to transfers themselves. If the mobile application was not activated within seven days of account creation, the account holder was obliged to visit a branch in order to restore access. This requirement effectively re-inserted a manual step into what should be a fully digital journey and underscored the persistence of hybrid processes in which physical and online interactions are interwoven. For consumers accustomed to frictionless card-based

checkouts or mobile wallets, such interruptions risk creating dissatisfaction and abandonment. By contrast, Banco BPM and BPER Banca offered comparatively smoother experiences. In these cases, the process of opening accounts and initiating transfers was completed with fewer obstacles, and the authentication flows were closer to European best practices. Although not entirely free from friction, these institutions demonstrated that convergence toward simpler and more user-friendly A2A journeys is possible.

Taken together, these five cases confirmed the high degree of fragmentation that characterises the Italian banking system. Unlike Spain, where Bizum and more consistent API deployments have contributed to a degree of standardisation, Italy remains marked by institutional divergence. Each bank applies different interpretations of regulatory requirements and security practices, from anti-fraud alerts that paralyse instant transfers to branch visits that undermine digital onboarding. For Inespay, documenting these issues during the testing phase was not merely an operational necessity but a strategic act of learning. By mapping where transactions were blocked, where additional identification was required, and where onboarding was comparatively smooth, the company built a granular understanding of the Italian environment. This knowledge forms the foundation of its localisation strategy and positions Inespay as a credible interlocutor for both merchants and regulators, precisely because it is grounded in empirical evidence of how APIs and user journeys function in practice.

Beyond the challenges encountered in opening accounts, Inespay also began testing actual payment flows through its Bonifico Online product. These trials revealed further differences in user experience. At Banco BPM, the process was exemplary: the payment journey was smooth, authentication was simple, and the transaction was completed successfully, offering a benchmark for what a functional A2A payment flow should look like in Italy. By contrast, BPER presented a more complex scenario. Transactions required a double authentication process, first as an AIS and then as a PIS, effectively combining account information and payment initiation services. This contradicted Inespay's intention of operating purely as a PIS without requesting or storing account data, and the flow ended with an error message indicating that the operation had not been completed. A third case, Intesa Sanpaolo, also exposed shortcomings. Here, the user was required to provide a codice utente and PIN for authentication, followed by confirmation via a mobile notification. Despite the apparent

correctness of the process, the flow ended with a message stating "order not completed," leaving the user uncertain whether the transaction had succeeded. These outcomes underline not only the technical inconsistencies across banks but also the fragility of user trust in A2A: even minor disruptions or confusing messages at the final step can undermine confidence in the method as a reliable alternative to cards.

In addition to the initial round of operational testing, Inespay and DoubleP prepared a second list of Italian banks to target in order to widen coverage and ensure robustness against the variety of national API standards. This list, provided by the company's leadership, includes Banca Mediolanum (Cedacri API), Fineco (Fineco API), Banca Sella and Hype (Fabrick API), a representative bank from Alto Adige (SIA API), Monte dei Paschi di Siena or Widiba (CBI API), CREDEM (CBI API), BNL – Banca Nazionale del Lavoro (CBI API), a bank from Gruppo Poste Italiane (CBI API), and representatives of the cooperative banking sector, namely Gruppo Iccrea (CBI API) and Gruppo Cassa Centrale (CBI API).

The strategic importance of this list lies in its ability to capture the full spectrum of API "flavours" currently deployed in Italy. Cedacri, Fabrick, SIA, Fineco's proprietary system, and the dominant CBI standard each present different technical logics, authentication procedures, and documentation practices. By systematically integrating with each of these, Inespay seeks to ensure that its product is robust and future-proof in anticipation of the Payment Services Regulation (PSR) and PSD3, which are expected to impose stricter requirements for reliability and interoperability. In this respect, the Italian market is not a monolith but a patchwork of technological standards; achieving comprehensive coverage is therefore both technically demanding and strategically essential. Each institution in the list carries additional significance in terms of market share and merchant reach. Mediolanum and Fineco represent important digital-first banks with large retail customer bases, making them crucial for scaling adoption among consumers already predisposed to online payments. Sella and Hype, through the Fabrick platform, play a pioneering role in Italy's fintech ecosystem and represent a gateway to innovative use cases beyond traditional e-commerce. The Alto Adige banks, connected via SIA, are relevant not so much for their individual size as for their demonstration of yet another API integration pathway, which must be mastered to guarantee national coverage. The inclusion of Monte dei Paschi, Widiba, CREDEM, BNL, and Poste reflects their weight in

the traditional retail banking landscape, while the cooperative groups Iccrea and Cassa Centrale represent the fragmented but extensive network of local credit cooperatives that collectively hold significant market share in rural and regional Italy.

In strategic terms, the rationale is therefore not only to expand merchant acceptance by connecting to more banks, but also to construct a comprehensive integration matrix that covers all dominant API providers. Inespay's experience in Spain has already shown that robustness in connectivity becomes a competitive advantage when regulators tighten supervision. In Italy, pursuing this strategy ensures that once PSD3 and the PSR come into effect, Inespay will already possess the operational expertise to deliver a seamless product across diverse banking environments. In this sense, the second list of banks is not simply an expansion roadmap but a deliberate investment in long-term resilience and credibility within the Italian payments' ecosystem. The decision to expand Inespay's testing matrix to include Mediolanum, Fineco, Sella/Hype, Alto Adige banks, Monte dei Paschi/Widiba, CREDEM, BNL, Poste, and the cooperative groups Iccrea and Cassa Centrale is not only about increasing coverage but also about mastering the wide array of technical standards that coexist in Italy. Unlike Spain, where API quality is gradually converging thanks to Bizum's centralizing effect, the Italian market remains fragmented across several infrastructural providers: Cedacri, Fabrick, Fineco's proprietary APIs, SIA, and CBI Globe. Each of these presents distinct strengths and weaknesses, with implications for both integration cost and end-user experience.

Fineco represents the simplest integration scenario. The bank offers a streamlined registration process and a redirection-only payment flow, built on Berlin Group standards with simplified certificate-based authentication. No tokens or body signatures are required, and the sandbox can be accessed via a simple URL change. However, testing scenarios are limited and require highly specific parameters, which reduces their usefulness in simulating diverse real-world cases.

Cedacri, used by Mediolanum and other institutions, provides a balanced trade-off between functionality and usability. Documentation quality is relatively high, authentication follows standard Berlin Group patterns, and overall technical complexity is moderate. Nevertheless, integration is slowed by platform inefficiencies, such as sluggish navigation and slow incident resolution—sometimes taking more than a month to update certificates.

Fabrick, powering Sella and Hype, is more advanced in ambition but less reliable in practice. Its documentation is scattered across multiple portals, test credentials are often non-functional, and some implementation issues remain unresolved despite official confirmation of enablement. While Fabrick positions itself as a fintech hub, its APIs suffer from inconsistency, making it difficult for PISPs like Inespay to rely on them without extensive troubleshooting.

SIA, which underpins banks in Alto Adige and other regional institutions, poses the most severe limitations. At present, sandbox registration has proven impossible, with only OpenAPI documentation available and no implementation guides. This makes it effectively impossible to test integrations without a live bank account. For Inespay, SIA's inaccessibility means that integration can only be based on documentation rather than empirical testing, raising risks of unforeseen failures during production.

Finally, CBI Globe, the most widely adopted standard in Italy, offers the broadest coverage but also the highest complexity. With over 500 pages of documentation, dozens of possible flows, and frequent updates, CBI demands significant development resources. Test environments are incomplete and sometimes non-functional, while support processes, though formally in place, are slow and require constant follow-up. Despite these shortcomings, CBI's central role makes it indispensable: it is the de facto backbone of Italian open banking and will remain unavoidable for any PISP targeting broad merchant adoption.

In summary, each API "flavour" reflects a different trade-off between accessibility, usability, and robustness. Fineco and Cedacri offer relatively straightforward integrations but limited functionality. Fabrick and SIA highlight the fragility of Italy's API ecosystem, with persistent non-functional environments. CBI delivers coverage but at the cost of extreme complexity. By engaging with each of these, Inespay is not simply broadening its market reach; it is preparing for a future in which PSD3 and the PSR will demand higher performance standards across all providers. In this sense, the strategy of diversifying integration efforts is not defensive but proactive, ensuring that the company builds resilience in advance of regulatory harmonization.

Among the banks already examined, UniCredit deserves particular attention because its APIs represent one of the more advanced implementations of the Berlin Group standard in Italy. According to the evaluation document, UniCredit provides complete error messages, follows a clear and consistent authentication model, and generally

demonstrates higher compliance than other providers such as CBI. The main drawback lies in the complexity of the registration process, which requires several manual steps before test environments can be activated. Nevertheless, UniCredit illustrates that Italian APIs are not uniformly problematic: some institutions can deliver technically robust solutions that, with refinement, can support a smoother A2A journey. For Inespay, engaging with UniCredit's implementation offers a benchmark for what "good practice" can look like in Italy, as well as a counterpoint to the more fragmented experiences encountered elsewhere.

Beyond individual providers, several systemic barriers emerged consistently across the Italian API landscape. The most recurrent were the limited usefulness of sandbox environments, the incompleteness of test scenarios, and the slow resolution of incidents. In many cases, credentials provided for testing were non-functional, or sandbox environments required highly specific parameters that did not simulate real-world cases. Documentation was often excessively long, fragmented, or outdated, while incident tickets could take weeks to resolve. These shortcomings reveal that the main challenge in Italy is not only regulatory fragmentation, but also the absence of a culture of operational support for third-party providers. For Inespay, this means that integration projects demand additional resources, time, and persistence, as technical difficulties cannot always be addressed quickly through standard support channels.

Alongside these technical and infrastructural challenges, Inespay has also needed to adapt its commercial and communication strategies for the Italian market. The founder himself highlighted that, from a commercial perspective, the company relies on DoubleP to act as its operational partner in Italy, providing the local knowledge and merchant access necessary to bridge cultural and institutional gaps. On the technical side, the adaptations required are similar to those implemented in Spain and Portugal but achieving them in Italy depends on the ability of clients to adopt the product and on the time necessary to integrate with local banks. In practice, localization has taken two complementary forms. First, Inespay has invested in linguistic and branding adjustments designed to make the service intuitive for Italian consumers. Whereas in Spain the product is presented as *Transferencia Online*, in Italy it has been rebranded as *Bonifico Online*. The rationale is straightforward: this phrasing is immediately understandable, reduces ambiguity, and lowers cognitive barriers for users who may not be familiar with

A2A payments. The company has also translated its website and educational materials into Italian, with particular attention to tone and clarity, ensuring that messaging sounds natural to a local audience. This process has required revision of automated translations, including slogans and mission statements, which initially produced unnatural results. These revisions illustrate the practical difficulties of localization, where even minor linguistic nuances can shape perceptions of credibility and professionalism.

Second, merchant readiness has been addressed through direct support and educational initiatives. Inespay, working with DoubleP, has begun preparing materials and training resources, like informative guides to distribute via LinkedIn and email marketing, to help merchants understand the benefits of A2A payments, particularly in terms of cost reduction and settlement speed. This is essential because, as highlighted in Chapter 4, the Italian market is characterized by consumer conservatism and entrenched reliance on cards and prepaid instruments. Merchant enthusiasm therefore becomes a key driver: by equipping retailers with clear arguments and straightforward integration options, Inespay can help generate the trust and acceptance that will, in turn, influence consumer adoption.

In short, localization in Italy goes beyond translation. It involves presenting the product in a way that is culturally resonant, commercially viable, and technically aligned with merchant needs. By foregrounding the simplicity of Bonifico Online while relying on DoubleP for commercial execution, Inespay seeks to balance its identity as a branded solution with the requirement to remain unobtrusive and intuitive at the checkout stage.

5.4 Lessons learned and outlook for the Italian A2A market

Beyond technical execution, the Italian launch of Inespay must also be understood in terms of its economic rationale and commercial strategy. A business plan view clarifies the scale of investment required, the role of DoubleP in local market entry, and the potential returns for merchants and the company itself. This perspective complements the technical testing described in the previous section by showing how operational readiness must be matched by financial and marketing viability.

An indicative business plan for Inespay's Italian entry highlights both the economic rationale and the organizational commitments required to achieve traction. The

commercial model is straightforward: a merchant fee of 0.4% per transaction, with a minimum of €0.30, which generates the strongest value proposition in high-ticket verticals such as electronics, travel, insurance, and furniture. In these segments, where card Merchant Discount Rates (MDRs) often range between 1.5% and 2%, and where plafond limits frequently disrupt checkout, A2A delivers substantial cost savings. To illustrate, on a €600 travel booking, a merchant paying 1.5% in card fees would incur €9.00, compared to just €2.40 under Inespay's model, representing a saving of over 70% on transaction costs. At scale, break-even is projected once 1–1.5 million transactions per year are processed, a realistic target in a concentrated banking market where covering the top ten institutions already ensures access to most retail customers.

To reach this threshold, Inespay must invest in marketing, sales, and technical infrastructure. Year 1 requires approximately €0.9–1.3 million, allocated to localized campaigns (LinkedIn, merchant webinars, trade events), technical integration work for fragmented APIs, and support activities. Unlike larger incumbents, Inespay does not maintain a large in-house salesforce. Instead, the Italian go-to-market is driven by a dedicated four-person team at DoubleP, responsible for awareness-building, merchant onboarding, and ongoing support. This setup is intentionally lean but strategically embedded in the local market, ensuring that commercial outreach is consistent with the realities of Italian payment culture. In addition to execution, DoubleP also conducts lead generation and scouting, identifying verticals and merchants most likely to benefit from A2A, such as travel platforms, insurers, and high-ticket ecommerce players, and aligning them with Inespay's value proposition.

The role of DoubleP thus goes beyond that of a reseller: it is both a commercial executor and a market translator, transforming technical readiness into adoption. This partnership compensates for Inespay's status as a younger challenger compared with providers like Trustly, enabling it to enter Italy not only with a compliant product but also with a credible plan for sales and growth.

Beyond the economic and commercial rationale, Inespay's entry into Italy also offers broader insights into how A2A payments evolve across Europe. The Italian launch illustrates that success depends not only on technical execution and financial viability, but also on learning how regulation, infrastructure, and market practices interact to make

bank-based payments credible alternatives to cards. The wider industry context is one of acceleration: the Worldpay Global Payments Report 2025[31] projects that A2A will account for nearly USD 3.8 trillion in transaction value by 2030. In Northern Europe, A2A already represent more than 30% of e-commerce payments and are projected to surpass 40% in countries like Finland. Spain has reached around 12%, while Italy lags at 7–8%, but with signs of merchant-driven momentum. At a global level, this trajectory points toward A2A and wallets steadily eroding the card's historical dominance, reframing them as serious contenders in both e-commerce and POS environments.

Against this backdrop, the Italian case provides a useful counterpoint to Spain. While both markets share structural similarities as Southern European economies with historically high reliance on cash and cards, their trajectories in A2A have diverged significantly. Spain has become a reference case in Europe, with widespread adoption of Bizum and rapid migration to instant credit transfers. Italy, in contrast, remains fragmented, with limited consumer uptake of A2A and strong dependence on prepaid cards, but with rising merchant appetite for diversification. Reflecting on the differences between these two markets, and on Inespay's journey across them, allows for a deeper understanding of the lessons learned and the outlook for A2A in Italy.

The Spanish market demonstrates how institutional alignment, and collective action can accelerate the development of A2A ecosystems. The launch of Bizum in 2016, as a joint initiative of Spanish banks, created a unified and standardised consumer experience that normalised bank transfers for everyday use. By 2023, Bizum had surpassed 23 million users, equivalent to over 60% of the Spanish adult population, and had become the cultural and technological reference point for A2A in the country. At the infrastructure level, Iberpay reported more than one billion instant credit transfers in 2023, representing a 22.8 per cent year-on-year increase and a migration rate of 54 per cent from traditional transfers, compared with a European average of around 15 per cent. Regulatory oversight has also been relatively proactive: the Banco de España has engaged directly with PISPs to monitor the quality of APIs and to address frictions such as redundant authentication steps. In contrast, Italy remains at an earlier stage of development. Italy is still a developing market for A2A, with low consumer awareness but

[31] Worldpay, LLC. (2025). *The global payments report: How consumer choice is changing commerce.* https://worldpay.globalpaymentsreport.com/en

growing recognition among retailers of the benefits of reducing dependence on card networks . Infrastructure fragmentation exacerbates this lag: instead of a single unifying scheme like Bizum, Italy is divided among multiple API providers (CBI, Fabrick, Cedacri, SIA, Fineco), each with distinct authentication and onboarding procedures. The consequence is a landscape where technical integration is slow and consumer journeys are often interrupted by identity checks, offline requirements, or inconsistent error handling.

Yet the Italian market also displays strong potential. As discussed in Chapter 4, merchants are increasingly motivated to diversify payment options, driven by interchange costs and the need to appeal to digital-first consumers. Reports on European payment behaviour underline this trend: although Italian consumers remain more conservative than their Northern European counterparts, merchant demand for cheaper, faster settlement alternatives is rising . This asymmetry, consumer caution combined with merchant readiness, creates a window of opportunity for providers willing to build patiently. According to Inespay's founder, Italy is "five years behind Spain" but progressing along a comparable trajectory. He further noted that with the top ten banks already operating properly, the company is effectively in a position to launch a minimum viable product, and that the Italian ecosystem could approach Spanish levels of maturity within 12–18 months. This statement encapsulates both realism and optimism. Realism, because the challenges of API fragmentation and user onboarding are undeniable; optimism, because Spain's trajectory demonstrates that such barriers can be overcome with time, institutional engagement, and persistence. The comparison between the two countries thus provides the foundation for identifying the lessons Inespay has learned in its Italian entry and for outlining the conditions under which Italy might converge with Spain in the near future.

One of the clearest lessons from Inespay's trajectory in Italy concerns the role of institutional engagement. In Spain, the Banco de España played an active role in monitoring PSD2 implementation and in mediating between PISPs and banks. This proactive stance helped to correct frictions early on, such as the tendency of banks to repurpose AIS interfaces for PIS activity. By contrast, in Italy, engagement with the Banca d'Italia and other national competent authorities has so far been less direct, leaving more room for inconsistent interpretations and uneven API performance. For Inespay, the

experience has reinforced that communication with regulators cannot be a one-off exercise: it requires continuous feedback about real transaction failures and user experience frictions. In this way, PISPs can help narrow the perception gap between what regulations stipulate and what APIs actually deliver in practice.

A second, equally important lesson has been the necessity of technical persistence. Unlike in other European markets where sandbox environments allow early testing, Italian banks often do not provide fully functional pre-production environments. Inespay therefore had to open real accounts in multiple banks to observe how payment initiation behaved under live conditions. This approach has been resource-intensive, but it has provided invaluable insights into the heterogeneity of Italian APIs. Tests at Banco BPM demonstrated that seamless and user-friendly A2A flows are possible, while flows at Intesa Sanpaolo and BPER revealed problems such as incomplete transactions or double authentication processes that conflated AIS and PIS functions. The lesson here is that integration in Italy is not about building a single technical connection but about building resilience through repeated trials and by mapping the quirks of each bank individually. Inespay has thus learned that persistence and patience are as crucial as coding skills in achieving reliable connectivity.

Finally, the Italian entry has also highlighted the importance of cultural adaptation. While Inespay positioned itself as a branded solution from the outset, the way in which this brand is presented to consumers required careful localization. In Spain, the label Transferencia *Bancaria* made the function self-explanatory; in Italy, the equivalent *Bonifico Online* was adopted to ensure the same effect. This decision may appear cosmetic, but it proved essential in lowering user uncertainty in a market unfamiliar with A2A at checkout. Beyond naming, localization also extended to the translation of websites and explanatory materials, which demanded revisions to ensure natural and professional language. Together with its partner DoubleP, Inespay has also invested in awareness-building campaigns, using LinkedIn posts and guides to inform merchants about A2A and its potential benefits. These steps underscored that technical integration alone is insufficient: gaining traction requires merchants and consumers to recognize the service as both credible and simple.

Taken together, these three dimensions, institutional engagement, technical persistence, and cultural adaptation, encapsulate the key lessons Inespay has drawn from its first phase in Italy. They show that building an A2A presence in a fragmented market involves

more than compliance with PSD2: it requires becoming a patient problem-solver, a credible counterpart for regulators, and a brand that communicates clearly with both merchants and consumers.

Looking ahead, Inespay's prospects in Italy can be assessed along three-time horizons: the short term, the medium term, and the longer term shaped by regulatory convergence at the European level. In the short term, the immediate milestone for Inespay is the stabilisation of integrations with the country's top ten banks. As the founder emphasised, once these banks' APIs are "operating properly," the company considers itself already in a position to launch a minimum viable product (MVP). This reflects the practical reality that in Italy, covering a critical mass of banks is equivalent to covering a critical mass of consumers, given the market's high concentration. Moreover, stable functionality across these banks would also eliminate the need for the hybrid AIS–PIS flows that have so far complicated user journeys in institutions like BPER.

The short-term horizon, therefore, is less about scaling merchant adoption and more about ensuring that the underlying technical conditions are robust enough to guarantee reliability.

In the medium term, Inespay situated Italy on a trajectory comparable to Spain's five years earlier. Spain, as described in Chapter 5.1, reached 12 per cent of e-commerce transaction value through A2A by 2024, supported by the widespread success of Bizum and an increasingly mature API ecosystem. Italy, at 8 per cent, remains behind but not fundamentally different in structural terms. With the company's accumulated expertise and a market that is beginning to show merchant demand for alternatives to cards, Inespay estimates that it will take between 12 and 18 months for Italian APIs to converge with Spanish levels of maturity. This expectation is not unrealistic: Iberpay's own data show how quickly consumer adoption can grow once infrastructure and supervision align, with instant transfers in Spain rising by 22.8 per cent year on year in 2023. If Italy follows even part of this trajectory, the gap could narrow within the time frame foreseen by Inespay.

The long-term horizon is defined by the impending regulatory changes in Europe. PSD3 and the new Payment Services Regulation (PSR) are expected to impose stricter and more uniform requirements for API performance, authentication, and user experience. For Italy, where heterogeneity and uneven quality have been major obstacles, this

harmonisation could be transformative. Inespay's strategy of investing early in mapping diverse APIs and resolving integration issues positions it advantageously for this regulatory shift. By the time higher standards are enforced, Inespay will already have accumulated operational resilience and institutional credibility. More broadly, Italy could serve as a laboratory for Southern European markets with similar profiles, such as Portugal and Greece, where consumer conservatism coexists with merchant appetite for cost-effective payment methods. Lessons learned in Italy may thus be exported regionally, amplifying the impact of Inespay's investment.

Indicators of progress in this forward-looking trajectory will include the proportion of successful transactions in live tests, the number of merchant pilots launched, the extent of merchant willingness to integrate A2A alongside cards, and the ability to achieve stable PIS-only flows without AIS redundancies. While specific figures remain to be determined, the direction of travel is clear: Italy is moving from fragmentation toward gradual standardization, and Inespay is positioning

Ultimately, the coming regulatory cycle and the gradual standardization of APIs will determine whether Italy can transform from a fragmented ecosystem into a sustainable market for A2A. Inespay's role in this transition will be to turn early operational learnings into long-term competitive advantage.

In sum, the Italian launch of Inespay illustrates how the path from strategic intent to market execution requires a combination of regulatory dialogue, technical persistence, and cultural adaptation. Beginning with the company's Iberian foundations and proactive lobbying in Spain, the case study has shown how these capabilities were transposed into a more fragmented and cautious Italian environment. The operational testing across major banks revealed both the heterogeneity of national APIs and the need for live experimentation in the absence of robust sandboxes, while the localization process underscored the importance of branding and merchant education.

The lessons learned, that effective A2A deployment depends as much on patient institution-building as on technology, provide the basis for a realistic but optimistic outlook. If short-term integration milestones are met, and medium-term convergence with Spain materializes, Inespay will be well positioned to benefit from the regulatory harmonization expected under PSD3 and the PSR. More broadly, the Italian experience

highlights that while the market is not plug-and-play, it rewards those operators willing to invest in persistence, credibility, and close collaboration with local partners.

Conclusion

This thesis has demonstrated that account-to-account payments, while already consolidating in Spain and Northern Europe, remain at an early stage in Italy. Fragmented APIs, demanding authentication flows, and entrenched reliance on cards continue to slow adoption. Yet the conditions for change are visible: merchants are increasingly motivated to diversify their acceptance mix, interchange fees keep pressure on costs, and upcoming reforms under PSD3 and the PSR will raise standards for reliability and user experience.

In this context, Inespay's Italian entry illustrates that success depends not only on technology, but on the quality of local partnerships. Working with DoubleP has proven decisive: the collaboration enabled systematic live testing across Italian banks, while at the same time preparing the ground for merchant outreach and sales. Having a partner that can bridge technical and commercial dimensions makes the difference between identifying problems and actually turning them into opportunities.

From a business perspective, the revenue potential is concrete. With competitive pricing based on a low per-transaction fee, A2A offers merchants substantial savings compared with card-based methods, particularly in sectors where payment values are high and transaction volumes stable. Even moderate adoption across industries such as travel, insurance, or utilities can already generate visible cost efficiencies. These incentives, combined with a growing appetite for alternatives among Italian merchants, point toward a gradual but steady shift in the country's payment landscape.

Ultimately, Italy remains a fragmented and demanding market, but also one where persistence can pay off. Providers that combine technical resilience with commercial credibility, and that work through local partners, will be best positioned to benefit from the gradual standardization that PSD3 and the PSR are set to deliver. In this sense, the Italian experience is not only a case study of obstacles, but also a template for how early investment can translate into long-term competitive advantage.

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