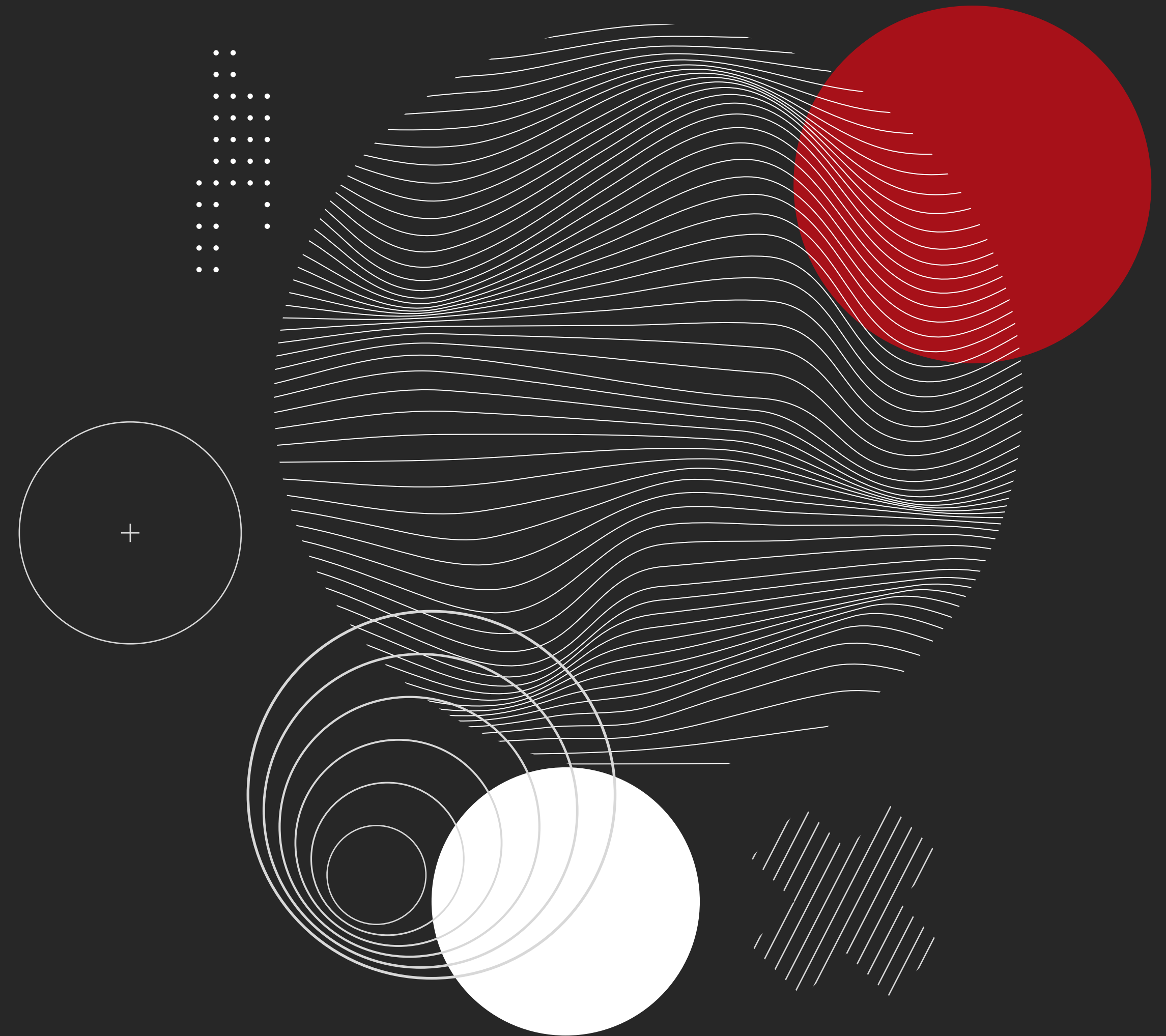


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Financial Biosphere

Banking and its platforms
in the age of ecosystems

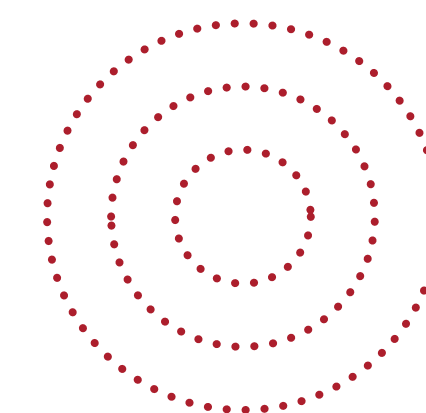


Abstract



In recent decades, banking has digitalized its processes, while maintaining the nature of its business models, characterized by a linear value chain which we call the "**Pipeline Business Model Approach**". Within this approach, the Digital Banking model can be seen, in which the institution incorporates web banking and mobile banking into its proposals, as well as the Digital Bank model, fully digital, without physical branches. However, recently a new type of ecosystem-based business model has emerged that involves collaboration between different players that interact with each other, exchanging and co-creating value to offer integrated experiences to customers, which they would not be able to provide if they operated independently. We call this business model "**Ecosystem Business Model Approach**". Models that follow this ecosystem include: Banking as a Service, Embedded Banking, API Marketplace, and Open Banking Solutions, among others. When these ecosystems are digital, they are assembled around platforms. So, the Financial Institution that wants to develop this type of business model will have to decide, in each case, whether it will assume the role of aggregator or complementor.

The major drivers of these new business models have to do with changes in technology (Artificial Intelligence and Cloud Platforms with their capabilities and tools), regulations (Open Banking), and demand (customer desires and expectations). For financial institutions to grow, choosing the strategic approach they want in the ecosystem era, **banking platforms must have seven elements** that represent key enabling capabilities: be Integrable in terms of architectures and systems, provide operational and business Observability, leverage all its layers Embedding Artificial Intelligence, providing Security, complying with the most relevant international standards, supporting uninterrupted high load volumes running 24x7, having all the basic banking functionalities for any institution and incorporating complementors, developing an innovation community around it to meet the specific needs of each financial institution.

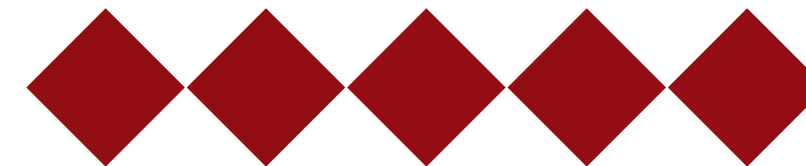




● The first wave of changes¹

It is notorious that, in the last two decades, banks have undergone a robust **digitalization** process that implied, among other things, the expansion of the bank branch channel to what we might call web banking and mobile banking. As in other industries, there was a transition **from physical to digital**. However, the relevant phenomenon behind this was the transition from a context of high friction to one of lower friction.

Naturally, core banking systems had to incorporate banking capabilities to make this digitization process possible. This change implied incorporating more flexible modules, including web banking and mobile banking, developing an API (application programming interface) to facilitate integration with diverse systems, improving user interfaces, operating 24x7, processing a high transactional load, and improving security levels. Fundamentally, to make this digitalization viable, core banking systems have had to transition from being a product to becoming platforms with flexible, open, and scalable architectures that facilitate integration with third parties that complement and increase the value offered.



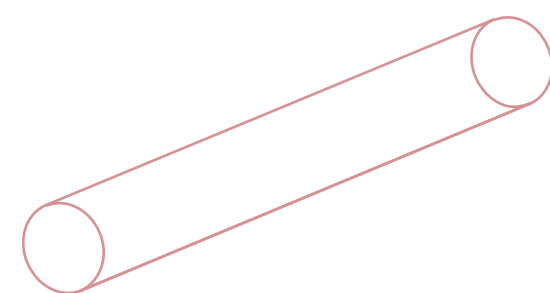
[1] Since our objective is not to perform a review of the history of banking, but to emphasize the new approaches, we envision the capabilities that banking platforms must have to enable them, considering the 21st century as the time frame. This does not imply ignoring that Western Union managed to transfer money using a telegraph in 1872 or that Barclays Bank installed an ATM in London in 1967, to cite two earlier cases that involved major market transformations.



What do the first-wave models have in common?

This first-wave of changes have implied digitalization of the existing business processes, iteratively and incrementally, on the base of the same traditional business model that some call "Branch-based business model".

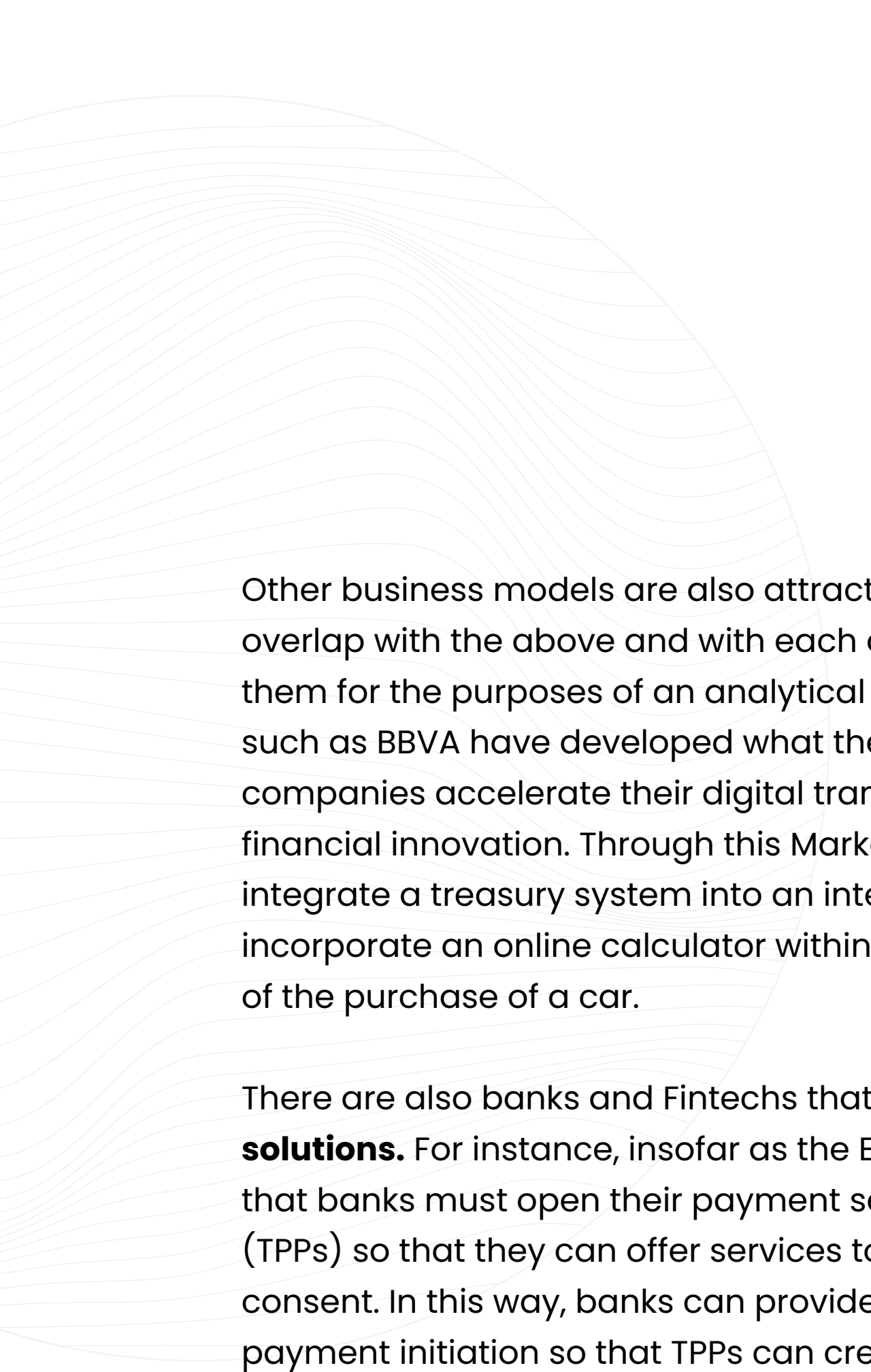
This is a classic approach to value creation that consists of controlling a series of linear activities to create a product, service or result. At one end of the value chain, we have the inputs and then follow a series of steps that transform these inputs into a final product that reaches the customer. We call this: "**Pipeline Business Model Approach**".



The second wave of change

In 2016, we wrote a White Paper called Life Banking, in which we visualized that a very deep change was taking place in banking, which went far beyond the digitization of processes within the boundaries of a pre-existing business model. We envisioned a change in the way banks and their customers relate to each other. In addition, we proposed a great opportunity for Financial Institutions and indicated that "every moment in a person's life that could end in a transaction was a moment in which the Institution could add value". This is part of what is happening, the financial institution is assuming a role of banking utilities provider that are embedded in the context of people's daily lives, facilitating non-banking processes such as: the purchase of a household appliance, a car, agricultural machinery, education or health services, among others. The big difference is marked by the fact that the person does not go to the Bank to apply for a loan, through their mobile phone or any other channel, but goes to the store to buy a product and it is during this process that another non-financial actor, such as an automobile company, offers a loan. It is important to note that this change goes beyond the digitization of a process and implies a modification in the business model of the Financial Institution.

A few years ago, another new business model called **Banking as a Service** started to stand out and implied that a Bank rents its system and its banking license to a Fintech so that it can offer financial services of a banking nature to its clients, without having to become a Bank. Thus, a Fintech that has developed a digital wallet could offer its customers the possibility of making instant transfers from their wallet to other bank accounts, or a Fintech could offer loans to its customers through its own front-end developed application that consumes services from a bank that provides the service.

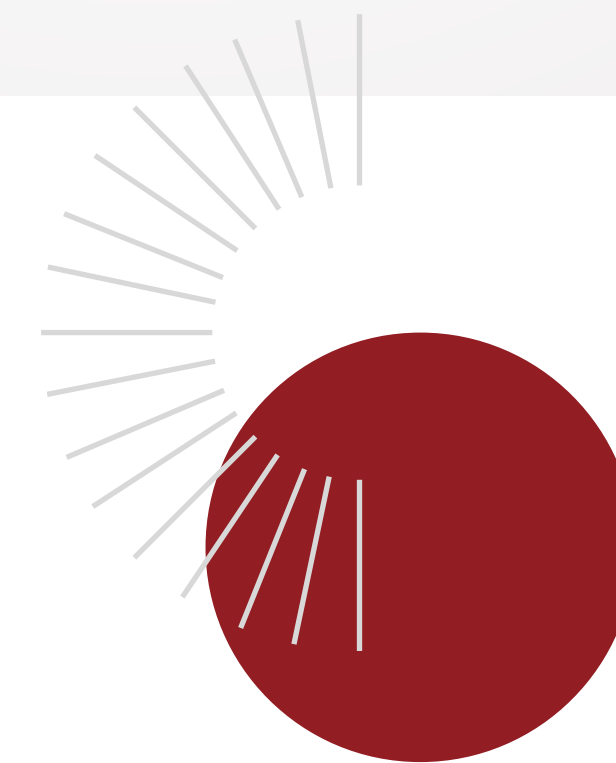


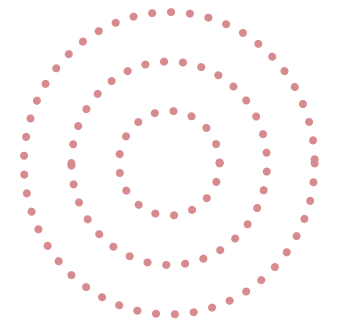
Other business models are also attracting attention which, naturally, may overlap with the above and with each other, but it is convenient to separate them for the purposes of an analytical approach. Some financial institutions such as BBVA have developed what they call an **API Market**, which aims to help companies accelerate their digital transformation, facilitating the process of financial innovation. Through this Marketplace they allow, for example, to integrate a treasury system into an internal ERP of the organization or incorporate an online calculator within an application to simulate the financing of the purchase of a car.

There are also banks and Fintechs that are developing "**Open Banking**" **solutions**. For instance, insofar as the European PSD2 payments directive implies that banks must open their payment services to third party payment providers (TPPs) so that they can offer services to their customers, obtaining their prior consent. In this way, banks can provide API access to account information and payment initiation so that TPPs can create value based on this API. In the same way, banks can interconnect with other institutions and offer "Open Banking" solutions.

What do the second-wave models have in common?

All of these new business models belong to the second wave of changes, they follow an **ecosystem approach**, and we place them under the umbrella of the **Ecosystem Business Model Approach**. Unlike classic business models, they do not follow a linear value chain (**Pipeline Business Model Approach**). In all these models, several players interact with each other, exchanging and co-creating value in a way that they could not have if they operated independently. We define it as an ecosystem, not a system, because each stakeholder influences the others, having to adapt to survive as if they belonged to a biological ecosystem.





Who are the Players, and What are their Roles and Interactions in the Different Ecosystems?

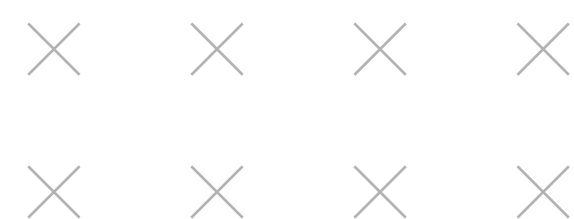
In the case of **BaaS** (Banking as a Service), the Bank interacts with the Fintech to provide banking utilities to its customers without the need for banking capabilities or licenses. In the case of **Embedded Banking**, the Financial Institution includes a banking utility in a non-banking customer journey, such as facilitating a car purchase process. So, in this example, three players make up an ecosystem: the financial institution, the car dealer, and the customer who will buy the car. In the case of **Open Banking Solutions**, the players are the Bank, the TPPs, and their clients. In the case of the **API Marketplace**, the Financial Institution interacts with companies that may or may not be Fintechs to integrate solutions to their value propositions for their employees or clients.

These different models can be combined. For example, an **Open Banking solution** can be embedded in a non-banking process (**Embedded Finance**) and offered as a service (**BaaS**). Eventually, they could access these solutions through a Marketplace (**API Market**). Therefore, it is relevant to understand that new business models have emerged and have the same nature that

differentiates them: **they are ecosystem-based models.**

When these ecosystems are digital, they are built around innovation or transactional platforms². Thus, financial institutions that choose to develop this type of collaborative approach must decide, in each case, whether they will play an **aggregator role**, being the Platform itself, or a **complementary role**, aggregating their products and services into other platforms. For example, when a bank allows an e-commerce platform to incorporate banking utilities as a value proposition for its customers, it is not playing the aggregator role but instead integrating itself into another platform. However, it would have an aggregator role if it decided to develop a Super App integrating third-party Mini Apps.

[2] More information about transactional and innovation platforms at: M.A. Cusumano, A. Gawer, D.B. Yoffie *The Business of Platforms: Strategy in the Age of Digital Competition, Innovation, and Power* HarperBusiness, New York (2019)



What are the main drivers of the second wave of changes?

The first wave of change that we usually refer to as the "Digitization of Banking" was driven by advances in connectivity through the internet and the emergence of smart mobile devices, among others. The second wave of change, involving a modification in the business model, is strongly driven by **cloud platforms** with their computing power, tools and services, **Artificial Intelligence**, and **Open Banking regulations**.

Of course, the first wave and the one we are currently experiencing have been driven by the demand side, i.e., **changes in customer desires and expectations** that contribute to the design and development of close, convenient, and efficient solutions.

The following diagram presents a simplified view of what we could call the **Financial Biosphere**, in which **platform-based** interactions are developed using technologies to connect people, companies, and resources, **co-creating and exchanging value**.

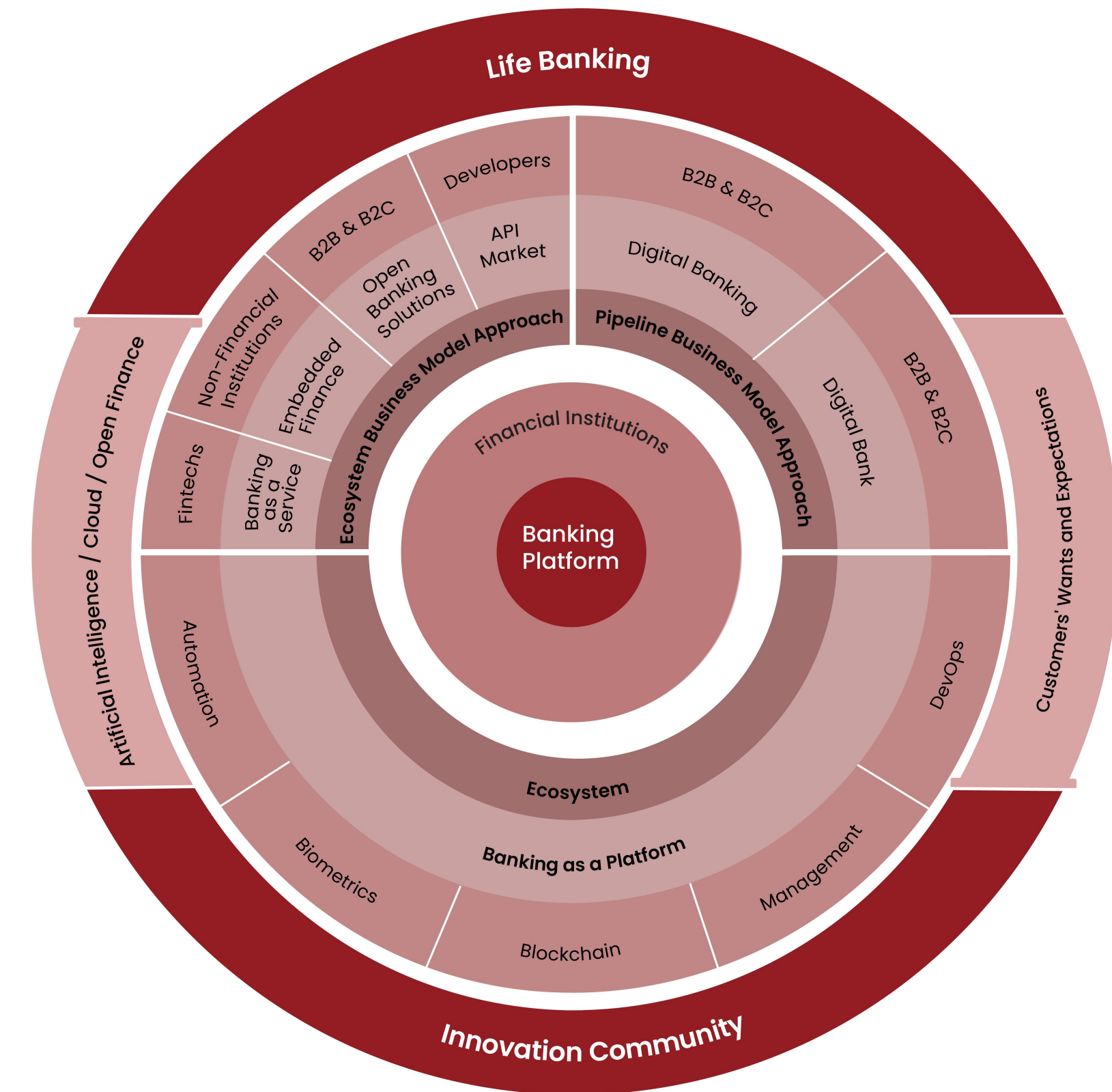
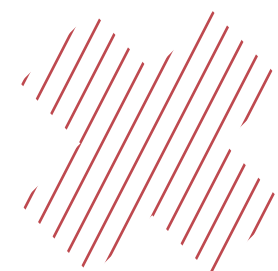


Diagram 1: Financial Biosphere - The picture represents a simplified view of the current financial system biosphere, contemplating its different players, interactions, and some of the most remarkable business models. The Innovation Community represents the specialized products and services that complement the banking platform, building value on it, creating an ecosystem around what is known as Platform Banking. Banking institutions can choose different approaches and roles based on a modern banking platform. They can develop ecosystem-based business models (Ecosystem Business Model Approach) or linear value chain business models (Pipeline Business Model Approach). Collaborative or ecosystem-based models include Banking as a Service, Embedded Finance, Open Banking Solutions, or the development of a marketplace of products that can be accessed through an API (API Marketplace). Within the linear value chain models, the institution can incorporate digital financial products (Digital Banking), such as web banking or mobile banking, or it can define itself as a one hundred percent digital bank (Digital Bank). Finally, banking profits reach companies and individuals by satisfying the desires and expectations of their daily financial life (Life Banking).





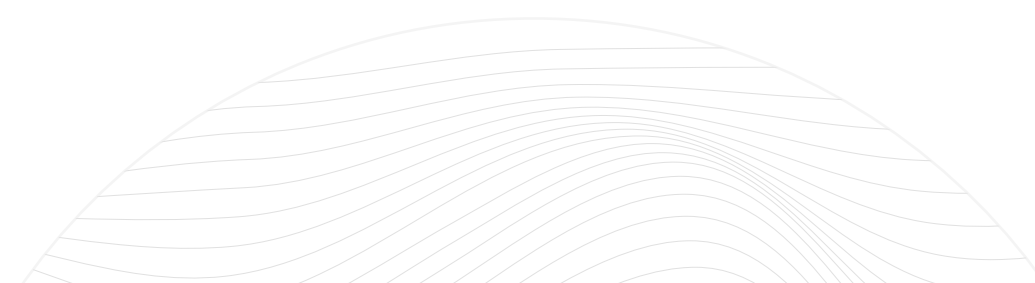
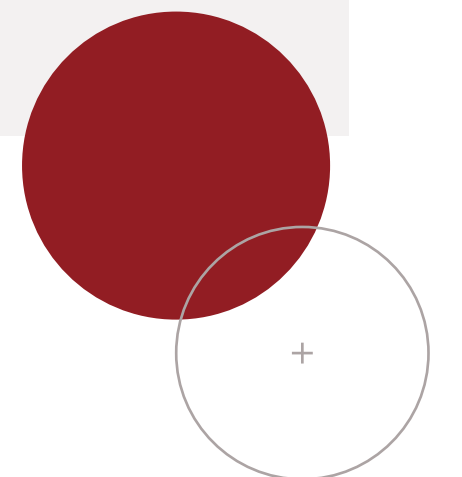
What are the capabilities that Banking Platforms must have in this new era?

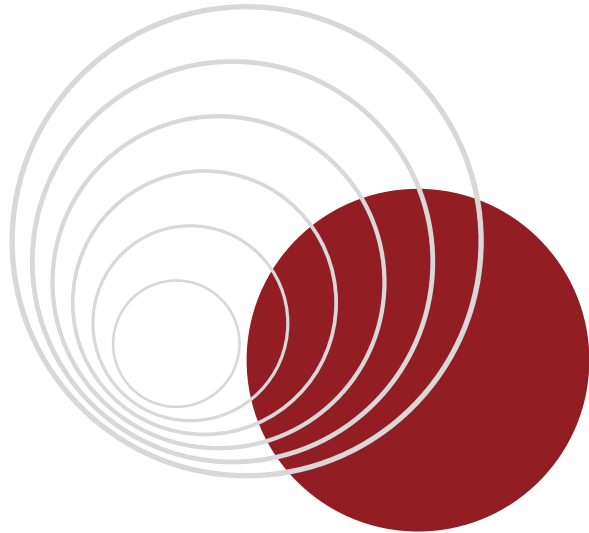


The banking platforms are at the heart of the current financial biosphere, as shown in diagram 1, are the Banking Platforms which comprise their core systems, their integration layer, and the entire ecosystem developed around them. As it was mentioned, core banking systems had to evolve, transforming into platforms to be able to support the era of banking digitalization. The new era of ecosystems requires capabilities that a Banking Platform must have and develop to allow financial institutions to grow by choosing their strategic approach in terms of the business model to be developed and the roles to be performed.

From our point of view, Banking Platforms must have **seven elements** representing the capabilities that enable the growth and development possibilities of the different types of institutions.

Diagram 2: The Seven Elements - The image represents a banking platform's seven capabilities or enablers to help institutions grow, choosing the business model to develop and the role to play.

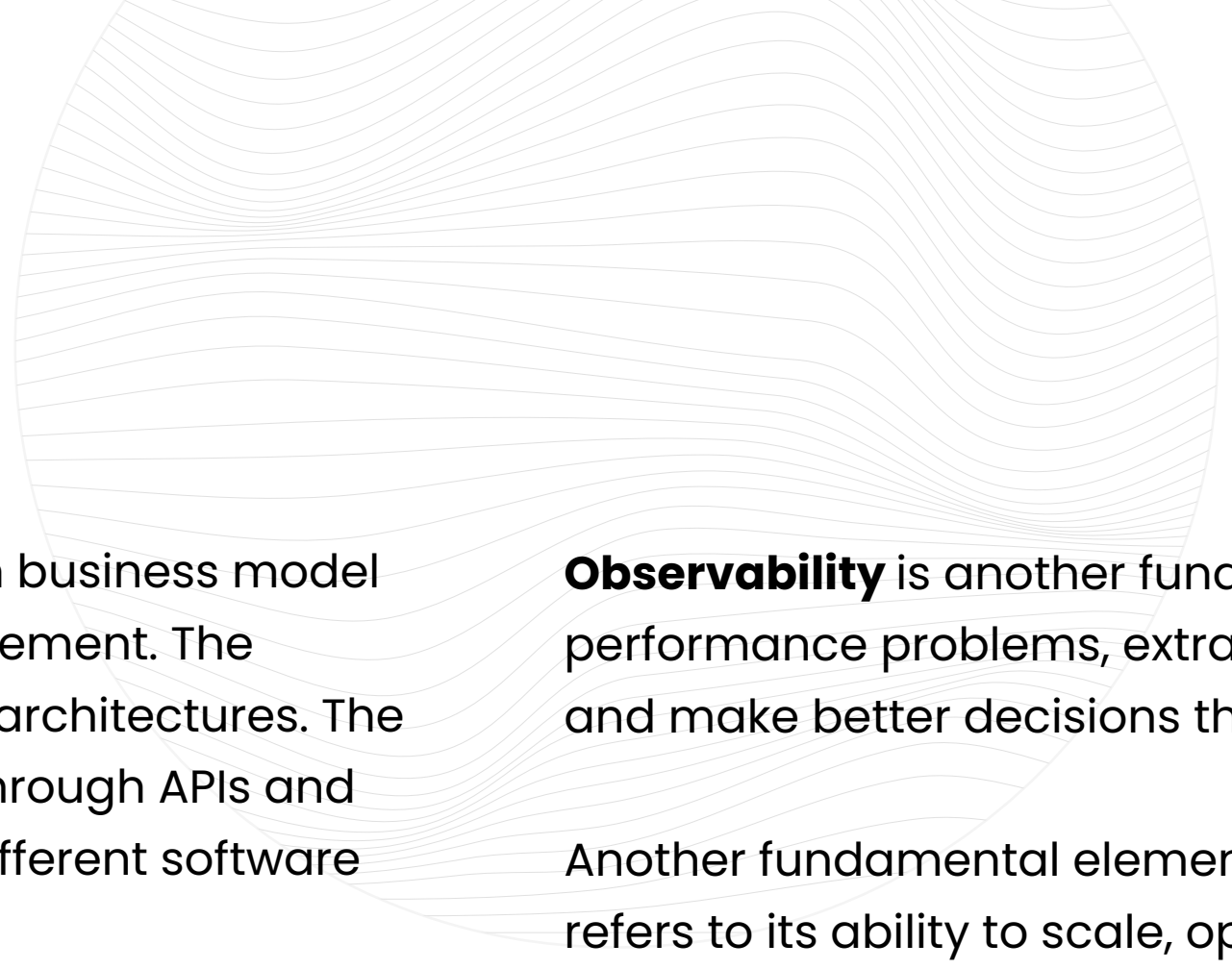




The Platform must be **Integrable**. In the era of the ecosystem business model approach, the ability to integrate becomes a fundamental element. The integration capability must be both in terms of systems and architectures. The platform must be able to integrate within multiple systems through APIs and global standards and operate across cloud platforms and different software and database servers.

Available Artificial Intelligence technologies must power them in all their layers, from programming, testing, and documentation management, through integration with other systems, and user navigation experience. We call this element **Embedded AI**.

When a financial institution chooses a banking platform, it must provide data confidentiality assurance and comply with the most relevant international standards for the market in which it operates. We represent this capability under the name of **Security & Standards Alignment**.



Observability is another fundamental element that allows us to anticipate performance problems, extrapolate operational issues from the results obtained, and make better decisions through dashboards that provide business visibility.

Another fundamental element of any banking platform is **Heavy Duty**, which refers to its ability to scale, operating uninterrupted 24x7, 365 days a year.

Building Blocks represent the heart of the Banking Platform; they are the set of banking solutions necessary for all financial institutions, regardless of the kind or business model they choose to develop.

In the context of the technological revolution, high degrees of specialization, and ecosystems based on the business model approach, the banking platform must attract and integrate innovative solutions that complement it within the framework of a Banking Platform strategy. We call this capability the **Innovation Community**.



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Strategic Planning Manager

About Bantotal

Bantotal is the leading banking platform in Latin America, which solves mission-critical banking operations for Banks, Finance Companies, Digital Banks, Fintech, e-Commerce, and Banking as a Service provider. An ecosystem developed around Bantotal complements the Platform with solutions focused on solving each client's needs.

More information: www.bantotal.com

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