

API Strategy

The Iceberg below Sea Level.

Zürich, 21. September 2021

API Strategy is more than just APIs

Open Banking is changing the traditional Bank-Client relationship by introducing a new inevitable party: Fintechs.

How is your bank positioning in this new environment?

A Vision from the Top

In the Financial industry, Open Banking and mainly the Payment Service Directives 2 (PSD2) in Europe paved the way a few years ago for banks to define their API Strategy. After all, APIs are the bridge to modernization.

Introducing such a strategy means a defined vision initiated from the top of an organization. A potential market advantage through a customer-centric value chain or even diversification with new business models is necessary for an organization to clarify its goals. Implementing the API strategy leads to a cultural change (e.g., Agile, DevOps), resulting in an organizational change. It revisits the technologies and architecture, IT landscape, and processes and fosters new technical skills.

Banking is Necessary

The COVID-19-pandemic has emphasized a dramatic need for digitalization becoming a top priority on C-levels' agenda for their customers and their employees. The new normal is mobile, digital, enabling users via self-service.

A famous quote from the mid-'90s is attributed to Bill Gates: "*Banking is necessary, banks are not.*". Open Banking changed the playing field: Nowadays, we are investing with Robo-advisors and executing payments through

Fintechs, not banks directly. It is no secret that for the digital generations not knowing a world without the internet, the adoption of these services is high.

A World of Opportunities

However, these same FinTechs have partnered with Banks to offer such services. Those banks have seized the opportunity to innovate with an API ecosystem, including internal developers and Fintech partners. This innovation can generate growth for the bank in terms of customers and, therefore, revenues.

The API Strategy Iceberg

API Customers see only the tip of the iceberg through an API Portal hiding the Revolution taking place under the surface.

The What, Why, When, and How

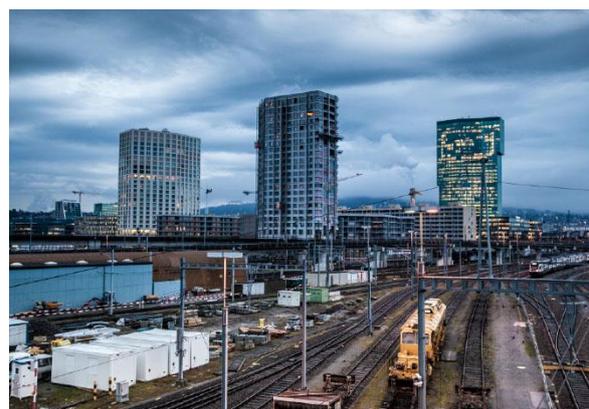
When starting an API journey, one of the first drivers is often the standardization of internal interfaces: Migrating legacy interfaces to re-usable API services leading to a cost reduction in future development. Next to the overarching goals, it is also crucial to define the API target customers: Internal/External developers? Selected partners? This decision will condition the approach for the API ecosystem.

The impact of an API strategy on an organization is such (presented in the remainder of this section) that C-level will drive it. First and foremost, it is a cultural change to be communicated with the What, Why, When, and How.

Finally, the strategy needs to be evaluated with quantifiable and meaningful indicators. They have to be measured regularly and acted upon.

The API Evangelist

Supported by the top of the organization, it will be valuable to create an API Evangelist role as a single point of contact to explain and guide this transition with the technical, mid-management teams and potentially with external partners depending on your target customers.



The API strategy will require new technical skills and, above all, a new business delivery model that can be a formidable motivator. The organization will define new roles to implement the API strategy.

DevOps practices must maximize the collaboration's efficiency between software development and IT operations and accelerate the value chain. The two most examples are Continuous Integration / Continuous Delivery (CI/CD) and Infrastructure as Code. Over the years, it became a job profile (DevOps Engineer), but this is about culture and practices. DevOps has to integrate the API strategy's equation.

Challenging the IT

Inevitably, the strategy will lead to an IT landscape review, the definition of the target architecture, and the detailed roadmap on how to achieve these goals in a stepped approach. The study will result in the assessment and decision of tools (e.g., API management platform, the famous DevOps toolchains), infrastructure, and architecture style.

During this phase, specifying the security patterns for the target architecture is essential. For example, securing a

How Knowledge Lab can help you.

Your (API) Strategy Partner every Step of the Way

private (internal) API can be different from securing a public API such as PSD2 APIs.

Last but not least to consider is the operation process. The introduction of numerous technologies requires adequate tools to monitor the new IT stack and analyze potential issues.

Open Your Strategy

As explained earlier, one of the critical questions to the API strategy is: Who are your customers? Who will consume the API ecosystem?

It is well known that Fintechs are strong with User Experience and customer interactions. They usually are more flexible organizations and, most importantly, do not have to carry the burden of complying with banking regulations. Thus, the combination Bank / Fintechs appears to be a natural match: For example, a bank could expose an API for Fintechs to offer car loans or mortgages. The Fintech will provide an end-to-end service, and the bank will gain exposure via new sales channels and gain new customers.

API portal is the media to publish APIs, their documentation, authentication mechanism, sandbox, ...etc. During the testing phase, selected target customers should be

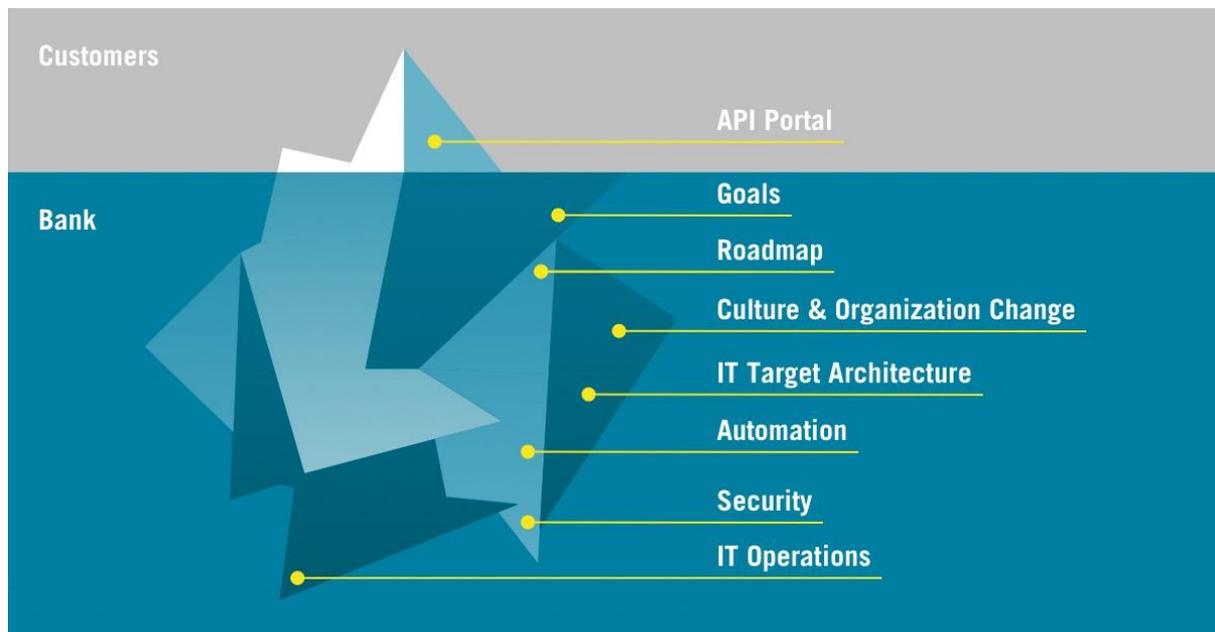


onboarded to provide their feedback. If the interface between the bank and its customers is not user-friendly, this will drastically impact your strategy.

Technically it is advisable to start with internal APIs as a first step for the organization to experience the complete life cycle of API development and operations with everything it implies. In this early stage of the strategy, KPIs will evaluate the transition and the lessons learned, and resulting actions will be keys for success. In a second step, the exposure of partner or public APIs can only benefit from the private APIs experience.

An Interdisciplinary Team

Knowledge Lab is a consulting, software development, and data science company for Financial Institutions. An interdisciplinary team with many years of experience develops solutions and its customers at the forefront of bank transformation and constantly researches new approaches and ideas in its laboratory. With our expertise, we can support you in every step of the way through the API Strategy: From defining the vision, goals, and roadmap, defining KPIs to evangelizing the API thinking and guiding cultural change within an organization.



IT Architecture at the Heart of the Iceberg

In the light of your defined API strategy and vision, our interdisciplinary team will review the IT landscape from every angle and assess several options. Based on this assessment, we will recommend the most suitable integration layer, security, automation processes, and tools to your needs.

In our cumulated experience, we have dealt with different integration layers to enable an organization to expose services and data in a standardized manner. Identifying the adequate architecture is crucial as it will be the core engine to deliver your roadmap. We will evaluate and propose technologies paired with architecture style to ensure your vision's successful delivery and describe its impact on the infrastructure.

The Who

The rise of Open Banking has crowned OAuth2 as authorization standard protocol. However, one should also know who is accessing their APIs and channeling, securing, and monitoring their access. At Knowledge Lab, OAuth2 is a common language, and therefore, we do understand Authentication, Authorization, and API Gateways. Amongst others, we have experience with securing mobile app and integrating solutions for two-factor authentication.

Within the definition of the IT target architecture, we will define the API security process and determine in

collaboration with your Security Office how to monitor and log the API accesses as well as notification mechanism based on a specific event.

DevOps: The Best of Both Worlds

The future is today: virtualization, containerization, going cloud-native. We standardize your processes on the state-of-the-art Kubernetes & OpenShift platform. Our experience in Kubernetes and OpenShift, full DevOps automation of deploying containerized and virtualized workload, ensures accelerated software delivery while guaranteeing its quality.

GitOps, automated tests, build and deploy pipelines, Dockerfiles, and Kubernetes deployment descriptors are not buzzwords for us but part of our daily development principles. Our approach to propagating changes from development through testing & staging to production lets us worry less about operations and focus on feature development more.

We will document a step-by-step transformation process through the lens of our assessment on the technical (tooling, development, testing, and release principles) and team dynamics level (operations, collaboration). It will introduce new or better-fitted tooling for the whole development and operation procedures, replacing manual processes with suitable automation.



When Revolution becomes the New Normal

The API Strategy is a Program more than a Project, and once delivered, this IT Revolution will become the new normal. It is fundamental that your IT operation teams have been trained and have the necessary tools to monitor and analyze new processes.

Through the API strategy journey, we will offer documentations and hands-on coaching for different target users: API platform owners, security engineers, DevOps experts, and IT operation teams. The coaching part will use the new delivered tools to identify the cause of an event, analyze it and correct it if necessary.

Contact Us.



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