

How to modernize core banking operations with API banking



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1. The abstract

While gearing up for a tech-first future, financial institutions are aggressively embracing APIs – and a wide variety of other technologies such as artificial intelligence (AI), big data, and enterprise agility.

The goal is to stay competitive in a consistently evolving and increasingly challenging business environment.

One must consider the management of the API ecosystems that are made available for sustained engagement of the partners. Managed Services for Banking API(s) is the need of the hour.

Customer expectations are digitally evolved

Conventional banking has transformed and moved online, so now enabling most financial transactions via mobile apps, websites, email, text messages, and other digital mediums. Millennials are driven by convenience and seek a banking experience with minimal human interaction, maximum comfort and at their preferred time. Besides, a swirl of economic and marketplace dynamics is influencing consumer behaviour. To meet the diverse needs of their customers, today's banks must create an engendering ecosystem of specialized services. This is possible only by allowing niche service players to make their services available using banking platforms.

The banks will not be able to build these services by themselves. Successful banks of the future will have a robust ecosystem of partners and an enabling technology landscape that partners can leverage. Such ecosystems will need APIs as a primary pillar – Open Banking standard is an example of a collection of recommended APIs that enable communication.

This white paper covers:

- 1. The value**
Why should banks consider managed services for advanced API management as strategic enabler for business transformation and innovation.
- 2. The value expansion**
The key levers to get greater value from managed API operations based on vast experiences made in this area.
- 3. The next steps**
The banking ecosystem is more dynamic now and requires frequent adaptation with regulations, technology advancements, customer and market changes.
- 4. API-based business transformation in Islamic banking**
The convergence of technology and Islamic finance principles to improve digital capabilities, enhance the customer interactions, and compete more effectively with conventional banks.
- 5. Nagarro's take**
Our observations on API implementation, based on our experience with different clients over the years.



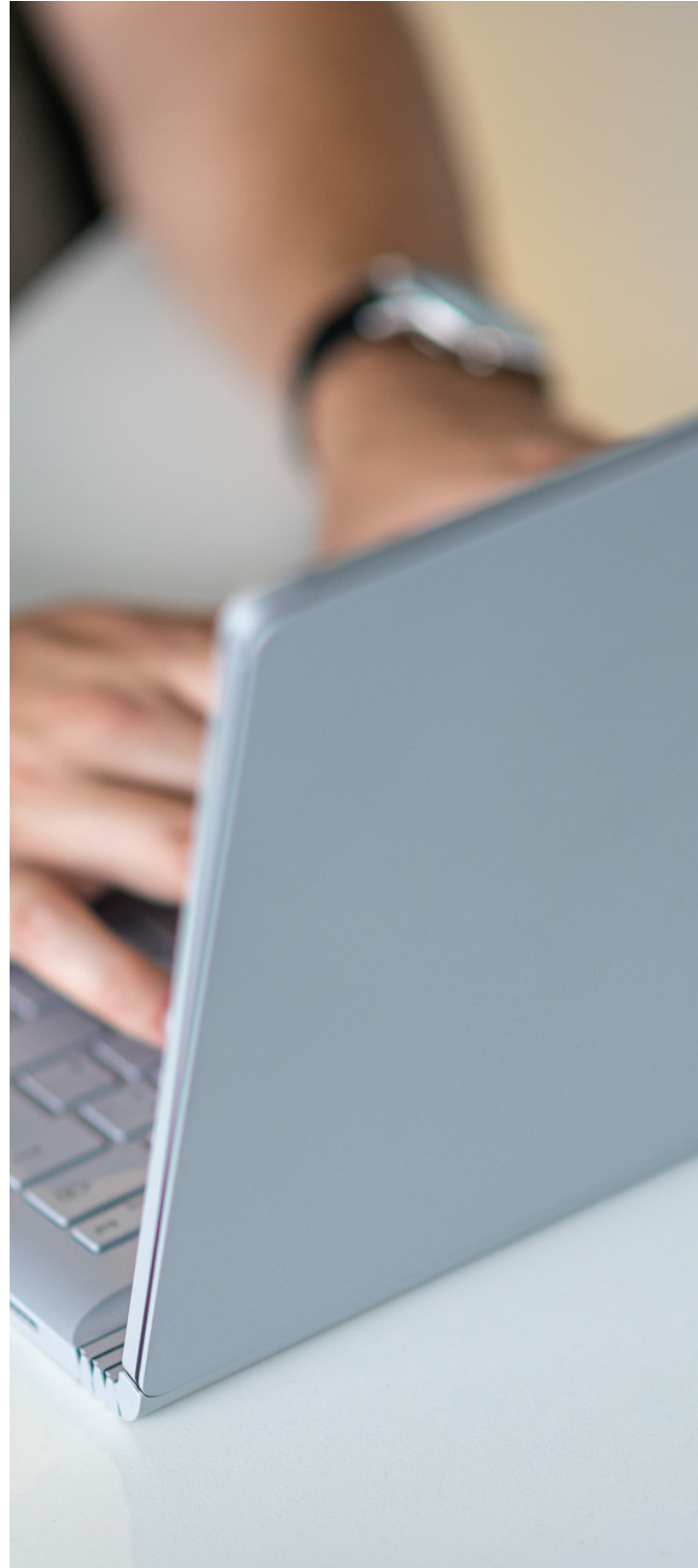
2. The value

Banks should invest in managed API operations

Making the right investments in the API-enabled ecosystem play to drive innovation, banks will be better positioned and prepared to leverage the potential of next-generations, data-driven tech solutions.

Several new initiatives on API-enabled business transformation and innovation—for instance aftermarket solutions to create new revenue streams, API-enabled platforms to improve the efficiency of banking processes, or analytics use cases to transform core operations—often fall short of expectations. An outdated, inflexible, and insufficiently resilient tech backbone that cannot support the demands of next-gen technologies is identified as the critical reason.

Banks are lagging in providing managed financial services via their app platforms. By adopting managed APIs operation, scalable and resilient banking applications can be built. Such applications can be refined and upgraded in a matter of days rather than months with extended possibilities. When APIs are well-managed in the banking API ecosystem, it becomes easier to build on the data foundation and extend existing system functionality, which allows us to respond to customer requests and new business needs with agility and flexibility partners. Managed Services for Banking API(s) is the need of the hour.





Operations have a direct impact on customer experience

An essential benefit of investing in managed API operations is increased customer satisfaction, driving consumption, and overall customer loyalty.

For any customer-facing banking institution, understanding what the customer needs is foremost. But, too often, they are riddled when trying to decipher what through customer journeys and their overall life cycle. Moreover, when managing and improving the customer experience, they focus solely on customer-facing or front-office operations. They fail to notice that the majority of customer experience issues result from underlying processes, banking operations, and back-office staff. Failing to connect the dots on the actual source of the fault has real consequences. As a result, customer loyalty score and customer retention rates often end up taking the worst hits since back-office functions impact a customer's experience in opening a new account, processing loan applications, and other everyday transactions.



To improve experience throughout customer journey, advanced API usage and implementation is the need of the hour. Beyond driving customer satisfaction and loyalty, we have identified several other further benefits of investing in managed API operations:

1. Retain customers:

Banking operations must be streamlined and more responsive to digital interactions. Banks need to work towards eliminating the lag in responding to the ever-changing and evolving customer needs.

2. Reduce the cost of compliance:

To expand the customer base, banks need to spend on resources to be compliant with regulations of specific regions and territories. Also, the cost incurred on compliance breaches is substantial and can negatively impact customer confidence.

3. Lower processing costs:

Banking operations include redundant tasks requiring manual intervention and efforts, resulting in high processing costs and manual errors. Banks must scale up with respect to underlying processes to enhance operational and cost-efficiency.

4. Boost business agility:

The banking ecosystem is more dynamic now and requires frequent adaptation with regulations, technology advancements, customer and market changes.

Banks have an opportunity to improve customer satisfaction and loyalty results by extending the CE processes to the operational areas of the bank business via managed API operations. In addition to this, to gain an overall 360-degree customer experience, banks' API ecosystem needs to be more sustainable, adaptive, scalable, dynamic. The way to achieve this is via API-managed operations in banking.

APIs are everywhere. It connects digital systems that initially were not meant to communicate with one another. But at the same time, managing API operations becomes critical with a digital presence. Suppose APIs communicating with different systems in an ecosystem are not well managed. In that case, every enterprise on the planet cannot better serve customers and will not sell more products and services, resulting in high impact.



3. The value expansion

Banks can get greater value from managed API operations

Improve efficiency, driving automation, and streamlining internal processes are essential.

Improving efficiency, driving automation, and streamlining internal banking processes are critical to better meet increased customer demands, and ultimately generate greater profitability. However, before embarking on API-enabled business transformation and innovation, Nagarro recommend banks to look into a set of key levers that we have identified and consider as critical for the success in your transformational journey to managed API operations:

- I. API as a product
- II. Developer experience
- III. Processes
- IV. Tools & technologies

API exposure requires businesses to make efforts on focus areas that boosts the API-enabled transformation: Let's look at each of these steps in more detail.

I. API as a product

Streamline banking processes by packaging APIs as a product and realize the potential value of API as a business accelerator

The most impactful API programs are typically led by a team that builds APIs as products designed to maximize productivity for internal and external developers. Many organizations now manage APIs as products that address the needs of relevant API consumers and are provided by API producers. Such an API product mindset is embedded in complete lifecycle management and materializes in long-term roadmaps that are continuously evolving to meet business needs. It is observed that organizations that treat APIs as products—not projects—are more likely to realize the potential value of APIs as business accelerators.

A key part of an API product mindset is designing APIs like products. There are two important questions to answer:

1. How an API is designed can dictate how easily it can be consumed by developers and thus how easily it can be leveraged in new ways in the future, and
2. Whether API designers operate with a product mindset. Do they prioritize ease of consumption and seek to increase the likelihood the API can continue to provide strategic value and extensibility in the future?

With managed API operations, internal banking processes can be streamlined by packaging APIs as a product and exposing them to third-party apps. For instance, the loan offer process is exposed as an API product, and partner apps can seamlessly integrate API products with managed API operations. The end-user can avail loan applications via third-party apps.



II. Developer experience:

API products are only useful if developers adopt them

An API product is successful when it empowers developers. With well-designed and well-packaged APIs, developers can assemble assets from disparate sources into new products and services with agility. It is like creating a tower with building blocks. This dynamic can manifest visibly in numerous ways:

- Increased developer consumption of an API
- Faster development cycles
- Easier partner onboarding
- Wider ecosystem growth

To enable seamless developer experience, APIs can be exposed as a Product via Developer Portal. This is a success factor in achieving monetization and onboarding (internal and external developers), furthermore can act as a single point to leverage and understand the APIs better for internal and external developers. APIs exposed as products enable data sources and overall economy to be monetized so it becomes important to implement monetization strategy for API product by banks as it drives the business revenue. With managed API operations, products on developer portal should be continuously monitored and iterated with analytics and customer feedback.

Onboarding developer experience with developer portal can be enhanced with managed API operations. For instance, if a developer wants to get registered to a bank API product and to a desired plan, business workflows like admin approval process, notification trigger mechanism, getting API keys for access, etc. can be automated to enhance overall developer onboarding experience with managed API operations.





III. Processes

Key point: Eliminate manual toil by empowering teams with automation solutions for everyday banking operations

With managed API operations, challenges faced during banking processes can be mitigated and banks can focus more on business growth opportunities, banks processes can be automated via API operations to successfully overcome challenges such as:

- A. Reacting to the constantly customer needs:**
Enable the defined rules of automation via APIs that will act as a bridge between customer and banks to expedite customer requests and to elevate the customer experience to another level.
- B. Mitigating non-compliance:**
Depend on an easy-to-access repository of rules that are shared with all authorized personnel. Enterprise cloud platforms provides built in automated compliance checks via policies and procedures. It can be customized to specific regions via API-driven services. This allows limiting non-compliance and enforces 24x7 vigilance with reduced error rates that are a result of manual activities.

- C. Designing cost-efficient processes:**
With the introduction of APIs, embedding predictive models can be placed into operational streams which can prioritize the manual intervention and thereby optimize the cost of manual interception and allowing the staff to focus on sales and advisory services. This ongoing cost reduction is achievable via API services — capturing data inputs, bot conversation responses, and activities as part of servicing activity.
- D. Adopting regulatory standard:**
An open digital platform comprise of apps consuming APIs internally, can integrate with any data from any source, along with predictive methods that can drive new insights into regulations and operations, retains extensibility for new products and services.

Managed API operations helps liberate banks from manual toil, empowering teams with automated solutions into everyday banking operations. Today, any global banking service provider can provide provisioning of digital services supported by reusable processes to new regions within hours instead of weeks.



IV. Tools & technologies

Managed API operations are empowered with tools and modern technology integration to support the APIs interaction in the connected digital banking ecosystem. They are key levers for managed API operations to improve efficiency of the ecosystem. Modern digital API-led technology standards provide a seamless experience to API internal Ops team to support banking API interactions to achieve better customer satisfaction. Every API specific transactional activity can be monitored with various API platform-agnostic tools (viz. Dynatrace, Splunk, Syslog, Schedulers, etc.) and help to manage, maintain, analyze, and fine-tune day-to-day banking operations.

From a technical standpoint, a robust banking API ecosystem should consist of API monitoring strategy to track performance, visibility, consumption records, etc., for e.g.: today financial service providers providing platform apps embedded with APIs where monitoring strategy is accomplished with extended integrated tools viz. Splunk, Jenkins, Jmeter, SonarQube, etc. to gain consumer seamless experience and capture data points to inculcate innovation ideas through APIs connected ecosystem.

Technology is a critical aspect to derive value from existing systems. The existing bank legacy systems are monolithic in nature, i.e., provides restricted functionality with high dependencies. Monolithic based architecture is replaced with microservice based architecture.

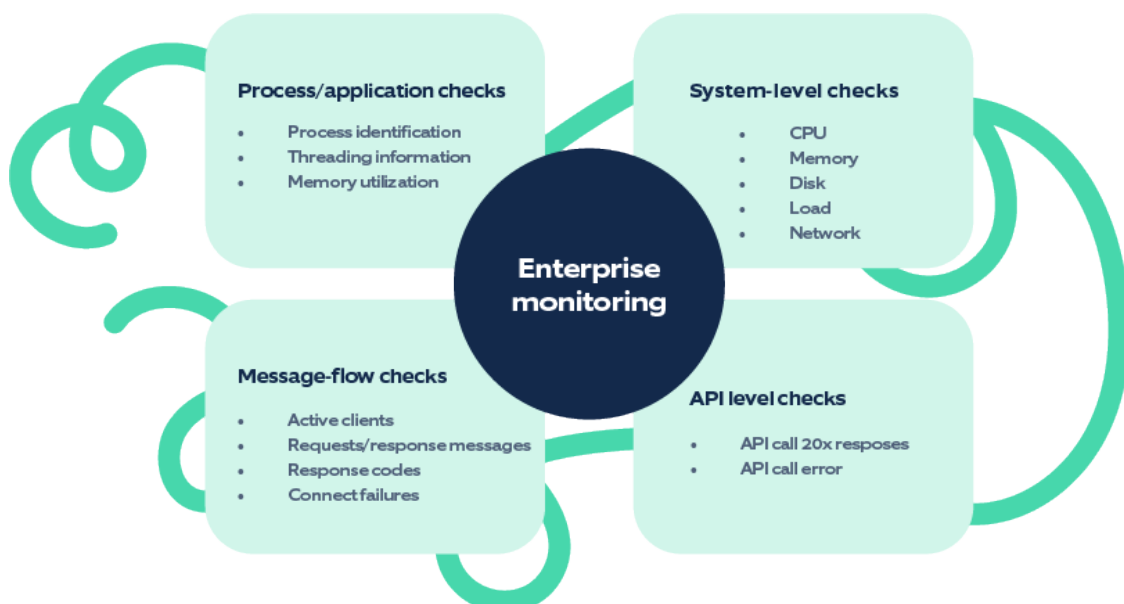
A microservice architecture pattern is a software application comprised of managed API operations that allow existing legacy systems to be loosely coupled, independently deployable, and highly componentized function that can be combined with one or more microservices to form a higher-level service.

External facing API gateways with managed API operations has allowed access to banks' data, products, and services along with:

- Accelerating development and deployment of product
- Exposing microservices and external partners through API calls
- Enforcing API-related governance requirements

Managed API operations helps orchestrate a banking service based on a combination of API calls. In addition to that performs key functions such as scaling, load management, and support an API gateway with legacy or monolithic platforms.

Working with a broad range of banks across the globe, we at Nagarro often see that these banking and financial organizations are more inclined and dependent on managed API operations via modern technology API tech-stack and advanced tools that helped boost their customer base and improve turnaround time for banking transaction leveraging APIs.





4. The next steps

Modernize digital infrastructure:

Modernizing begins with understanding your existing partnerships and what those partners need. You also need to know which third-party apps are involved in your chain of services and the data you can glean from them to know what customers are seeing or experiencing when they encounter your embedded service.

Managed API operations using microservice model approach, banks can leverage opportunity to be exposed to a larger customer base and improve efficiency and satisfaction with new sources of income. With managed API operations, banks are managed to serve all kinds of financial transactions with a simple tap using various platforms.

To serve customers with agility, bank must restructure their solutions from a monolithic approach to using a microservices model approach. This type of architecture will let you deploy and update individual API services that your partners can incorporate into their own sites and solutions.

Provide accessibility to external business partners via API Management:

With the introduction of APIs, taking on new business partners becomes easier, especially for those in the heavily regulated financial services sector, requires groundwork. There is a need to lay a strong foundation for success by designing your APIs and managing API operations with the intention to:

- **Innovate today's business model by embracing open banking**
- **Improve customer choice by enriching today's service portfolio**
- **Foster a co-creative and open innovation mindset in product development**
- **Evolve into an omnichannel-enabled, seamless customer interaction**
- **Improve strategic flexibility and business agility of today's enterprise IT**

Managed API operations helps banks to smoothen exposure of bank systems to external world and ensures keeping in mind the below important factors:

- **Ensure Security – APIs exposed in secure way**
- **Ensure monetization – Exposed APIs generate source of revenue**
- **Supply analytics – Innovate business with insights on APIs offerings**

Digital ecosystems are already here, APIs are already in use, and with managed API operations, platforms take the mystery out of designing, building, managing, securing, scaling, and analyzing APIs.



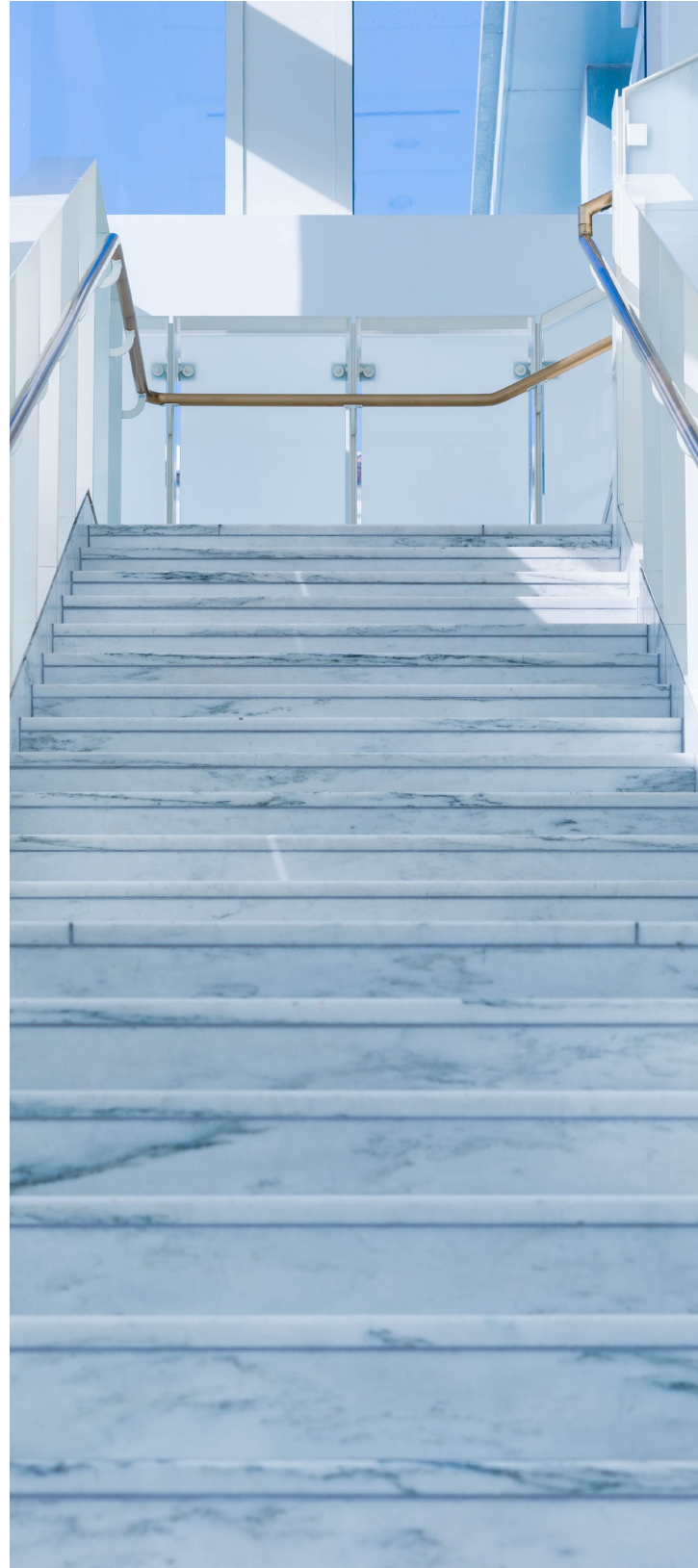
What are the next steps to start or advance in managed API operations for banks?

Manage and analyze the vast API data:

Banks has vast amount of data that APIs collect, from day-to-day banking activities. Managed API operations excels API data-driven approach and create path of doing business with innovation.

With the integration of managed API operations viz. triggering event driven notifications, alerting mechanisms, data collection, custom analytics usage, etc., on cloud app platforms, banks can leverage the potential of the API economy through new business models like platform banking. Managed APIs operations can generate revenues and monetize APIs if planned in better way, while getting to know your customers.

Data and APIs are the new building blocks enabling customer-rather than product-driven innovation, API data collection with the use of managed API operations is enormous. Data analysis and democratization via managed API operations will be the core of future banking.





5. API-based business transformation in Islamic banking

While we talk about the transition in the banking sector, Islamic banking is a niche segment at the precipice of growth today.

The intersection of API-enabled business transformation and Islamic banking presents a unique opportunity for banks to create more customer-centric solutions that align with the principles of Islamic finance. Islamic banks can increase their digital capabilities and compete more successfully with normal banks using APIs.

For example, the prohibition of interest, a fundamental tenet of Islamic banking, states that Islamic banks are not permitted to charge or pay interest on loans or deposits. Instead, they can use API and utilize a model where the customer and the bank split the profits and losses.

Another Islamic finance principle is the focus on ethical investments that benefit society. APIs can assist Islamic banks in identifying and evaluating such investments by giving them access to a broader range of data and insights. This allows banks to make more informed investment decisions and ensure that they align with the values of their customers.

The collaboration between Abu Dhabi Islamic Bank (ADIB) and Tarabut Gateway is one example of how Islamic banking have and API merged. Tarabut Gateway is a leading open banking platform that provides financial institutions access to use open banking APIs. ADIB has partnered with Tarabut Gateway to launch a new Shariah-compliant digital banking platform that supports real-time payments.

APIs can likewise further develop consumer loyalty in Islamic banking. By giving admittance to a more extensive scope of administrations and information, APIs can empower banks to offer more customized and tweaked items and administrations. For instance, we can utilize APIs to empower ongoing installments, which can work on the speed and accommodation of banking exchanges. We can also utilize APIs to give clients customized venture proposals according to their monetary objectives and chance hunger.



However, the crossing point of the API programming interface, empowered by business change, and Islamic banking presents some difficulties. One key difficulty is the requirement for Islamic banks to guarantee consistency with Shariah regulation while executing APIs. Islamic banks should guarantee that their APIs conform to the standards of Islamic money, like the forbiddance of premium, and that Shariah researchers endorse them.

Another test is the requirement for Islamic banks to defeat inheritance IT frameworks that may not be viable with APIs. Islamic banks should put resources into new IT frameworks that are viable with APIs, empowering them the maximum capacity of this innovation.

All in all, APIs present a unique chance to Islamic banks to make more arrangements for clients according to Islamic money standards. By embracing APIs, Islamic banks can work on their advanced abilities, improve the client venture, and contend with conventional banks. While there are difficulties to overcome, the advantages of the programming interface-empowered Islamic banking are critical. Banks that embrace this pattern are strategically prepared for future disruptions.

A study by the Dubai International Finance Center (DIFC) viewed that 84% of Islamic monetary organizations in the Middle East and North Africa (MENA) want to carry out open banking in the next two years. This shows that there is a critical need among Islamic monetary foundations to use APIs and open banking to improve their computerized capacities and deal more imaginatively with clients.

Moreover, Shariah-consistent fintech organizations that influence APIs and computerized advances are coming up in the Islamic money space. For instance, Wahed Contribute is a US-based computerized venture stage that offers Shariah-consistent speculation portfolios to clients in the US, UK, and Malaysia. The stage utilizes APIs to constantly observe speculation execution and give clients customized venture suggestions according to their individual monetary objectives and hazard hunger.

To sum up, business changes empowered by programming interfaces are a developing pattern. As Islamic monetary organizations and fintech firms take on APIs and computerized advances, we will see imaginative arrangements focusing on client needs while complying with the Shariah regulation standards.



6. Nagarro's take

Platform-based API management goes well beyond just designing and developing APIs. It should be understood not only as an IT topic but as an “enabler” for digital transformation and business building.

If decision-makers from IT and businesses use this enabler to modernize enterprise IT and develop new services, smart products, and innovative business models, they can tap enormous opportunities. Therefore, we believe this topic should be a priority at a board or executive management level.

In this context, Islamic banking with its unique ecosystem needs special attention. Nagarro is working in this segment, especially in the Middle East. A part of our specialist advisory services is working to augment core banking services for a leading retail and corporate finance group in the Middle East. We are their preferred strategic and digital transformation partner.

For another major banking client, our digital solutions team created a lifestyle banking app for millennials. Our service offerings include legacy system modernization, fintech and digital solutions, agile transformation and coaching, design and user experience workshops, and enterprise architecture consulting.

Want to know more? Explore our offerings and connect with our experts!





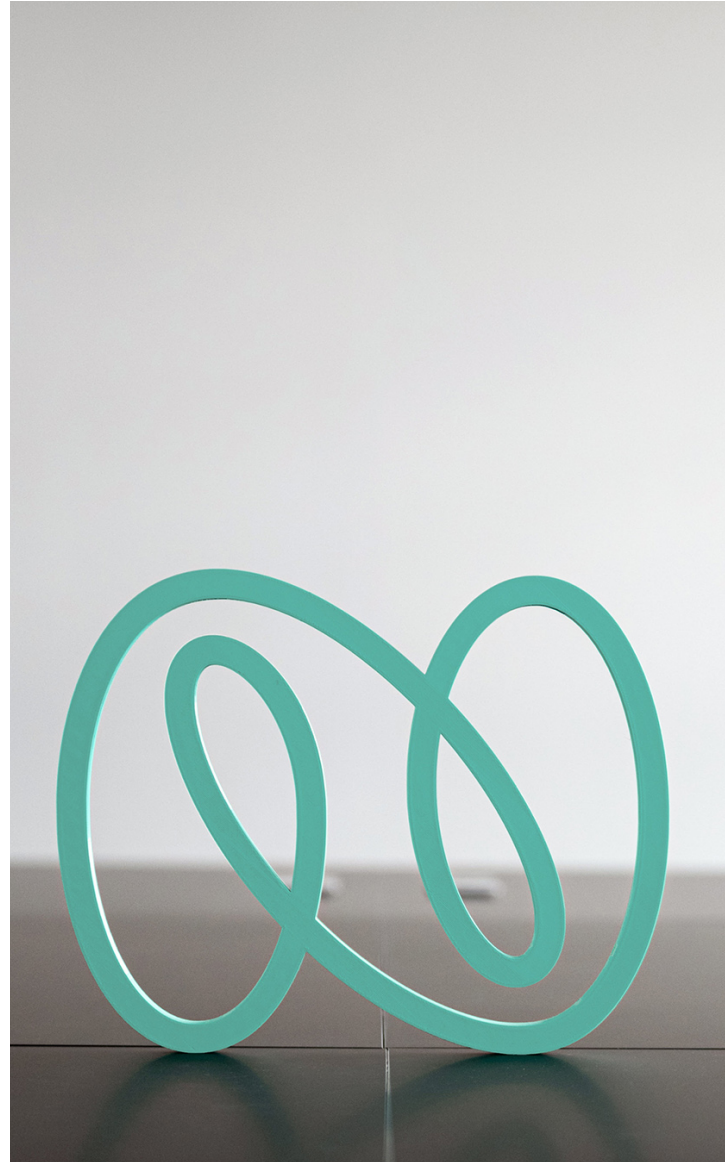
Conclusion

APIs are empowering business.

APIs are empowered to drive business. Managed API operations helping to expand banking products / services beyond an existing footprint. The need of the hour is open banking with managed APIs operations. We have discovered the aspects and importance of managed API operations and learned why it's important, how banks can adopt, what are the next steps for banks and understood the bigger picture of next generation banking. We also realized key levers for banking and how modernize infrastructure, data democratization is the efficient way of performing bank operations and all together make the secret sauce to success.

Optimized API services with managed API operations have the power to transform every customer interaction into a relationship-building opportunity, while showing them how efficient Optimized API services are, and will be a differentiator in the banking and financial domain in the coming years.

So, if you are looking forward to taking your banking to the next level with managed API operations, Nagarro can help you get it right. Get in touch with our experts to know how we build futuristic banking apps for our client worldwide. We can help you develop a brand-new digital investment platform to create a seamless customer experience.





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