

Whitepaper

Core Modernization The TechM Approach



Abstract

Many banks still operate on outdated core systems which force them to resort to techniques like memo posting in batch processing to mimic real-time processing. However, this approach is ineffective; banks will have to ditch these methods and start planning how to modernize their core.

This white paper outlines the two approaches of modernization- front to back and back to front modernization. The choice between the two approaches depends on the key considerations. We dive deep into the approaches through this paper and analyze their pros and cons.

Key Takeaways

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Core Banking Modernization and Approaches

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Introduction

In today's dynamic world of banking, traditional practices and legacy systems are being challenged by a wave of technological advancements and evolving customer expectations. The emergence of fintech disruptors, the ubiquity of smartphones, and the demand for instantaneous, personalized services have reshaped the financial services landscape. In response to these transformative forces, banks are increasingly turning to banking platform modernization as a strategic imperative. This forwardlooking initiative involves the revitalization of the backbone of banking operations—the banking system—by harnessing the power of cutting-edge technologies. In this exploration, we delve into the multifaceted realm of banking platform modernization, examining its pivotal role in enabling banks to adapt, innovate, and thrive in an era where agility, security, and seamless digital experiences are paramount.

Driving the Need for Core Modernization

Banks have several compelling reasons to modernize their core banking platforms:

1. Customer Expectations, Service, and Satisfaction: In today's digital age, customers expect convenient, 24/7 access to their accounts and banking services. Modernization allows banks to offer user-friendly online and mobile banking experiences that meet these expectations. A modern core banking system can provide a 360-degree view of the customer, allowing for more personalized interactions and quicker issue resolution, ultimately improving customer satisfaction.

2. Competitive Advantage: To remain competitive, banks need to keep pace with other financial institutions and fintech companies that offer innovative services. A modern core banking system enables banks to offer new products, services, and features more quickly.

3. Efficiency and Cost Savings: Legacy systems can be costly to maintain and operate. Modernization often leads to streamlined processes, reduced operational costs, and improved efficiency through automation and digitization.

4. Regulatory Compliance: Compliance requirements in the financial industry are continually evolving. Modern core banking platforms can more easily adapt to regulatory changes, reducing the risk of non-compliance and associated penalties.

5. Digital Ecosystem Integration: Banks can integrate more easily with third-party fintech providers, allowing for partnerships and expanded services, thanks to modern APIs and technology stacks.

6. Risk Management: Modern platforms often have better risk management capabilities, helping banks identify and mitigate risks more effectively.

7. International Expansion: For banks looking to expand internationally, modernized platforms can provide the flexibility needed to adapt to different markets and regulatory environments.

8. Legacy System Challenges: Antiquated legacy core can have multiple inherent challenges like constrained scalability, inability to harness power of technological advancements and secure itself from modern threat vectors. Aging legacy systems may lack support, making them increasingly difficult and expensive to maintain.

In summary, modernizing core banking platforms is essential for banks to remain competitive, meet customer expectations, comply with regulations, improve efficiency, and take advantage of technological advancements.



What are the Different Approaches?

However, banking organizations can only benefit from modernization when it is implemented right. Therefore, there are multiple approaches for modernizing banking platforms which can employed to achieve modernization. These approaches can be divided into two major categories - incremental modernization (layer or component wise) approaches, or big bang modernization approaches. Big bang modernization is comparatively more cost intensive, time consuming, complex, and riskier compared to incremental approach. Due to this, banks prefer to go with incremental modernization approach. Incremental modernization can be actualized in two different ways -

- **1. Front to Back approach:** This approach focuses on upgrading or replacing the customer-facing front-end components of a bank's core banking system before addressing the underlying back-end infrastructure and processes. In other words, it starts with improving customer interfaces, digital channels, and user experiences and then gradually extends these improvements to the internal back-end systems.
- 2. Back to Front approach: This approach focuses on upgrading or replacing the backend systems, infrastructure, and processes of a bank's core banking system before addressing the front-end customer interfaces and experiences. In other words, it starts with the internal processes, data handling, and core functionalities and then gradually extends these improvements to customer-facing applications and services.

The choice between these two approaches depends on the specific goals, constraints, and circumstances of a bank. Each approach has its advantages and disadvantages, and the decision should be based on several key considerations. We analyzed these considerations for both approaches and provided guidance on which approach may best suited in given situation.

Key Considerations	Front to Back	Back to Front
Primary Objective	 To provide best digital experience to customers and enhance customer service External factors are driving modernization 	 To reduce time to market for new products, new customer experiences Internal factors are driving modernization
Highly complex legacy core	Preferred as front end can abstract the complexity of legacy core	
Customer retention and attraction		Preferred as modernizing core helps increasing agility for new offerings
Innovation and fintech integration	Preferred as front end with API first integration approach can reduce integration time and cost	
Operational efficiency		Preferred as back-office efficiency improves with modern core
Regulatory compliance focus		Preferred as modern core expected to be compliant with latest regulatory requirements
Budget and resource constraints		Preferred as modernizing core gives more control on scope of change
High risk tolerance	Preferred as rapid front end modernization can induce potential operational disruptions	
Data integrity and integration concerns		Preferred as modernizing core can strengthen data foundation.
Vendor lock-in for outdated legacy core	Preferred as in such scenario modernizing core results in dead investments	

From this analysis, it is apparent that, when enhancing customer digital experience is not primary driving factors, back to front approach should take priority. This approach enables a strong foundation for harnessing benefits of emerging technologies and innovations. However, these benefits can be achieved to its fullest only when back to front approach is implemented right.



Front to Back Modernization

Criteria for selecting front to back approach

- Front to back carries lower risk and lower initial cost, with iterative improvements to the customer experience.
- This approach lets banks avoid investing in a core banking platform. They can source and integrate components separately.
- Unbundling of products is easier and can enable bank to offer BaaS (Banking as a Service)
- This approach will improve the customer experience layer, but the core will remain legacy resulting in technical debt and operational cost of maintenance of the core systems.

To tackle the legacy core, many banks use a front to back modernization approach. They build API-based ecosystems for critical integrations, digitize customer interactions at the front-end and link them to digitized processes at the back end. The digital front end, user interfaces and integration layers are modernized while the legacy core is retained. This is achieved by utilizing a range of technologies and adopting agile methods of working.

The internal IT infrastructure of banks is being componentized and standardized using APIs for both the back and front office applications. This enables banks to build an interoperable architecture to fit and comply with various business and market requirements and bring in the ability to integrate with third parties and fintech institutions through open API.

Web-centric architecture is a critical enabler of the composable enterprise vision. APIs must be modular and reusable and, must meet the non-functional requirements like compliance and security. The team that created the APIs defines them, manages them, and makes them available to those deemed fit.



Figure 1: Front to Back Modernization





Drivers for Front to Back Modernization:

- Isolated and disparate systems in different lines of business
- · Legacy technology with an ageing application portfolio
- · Inconsistent and inadequate customer experience across various channels
- · Lack of business agility and innovation capability
- There is currently no specific base platform suitable for building digital use cases and data assets.
- High cost of operations

Features of API led Modernization

Reusability

- Designing and building once and reusing across different lines of business and countries
- Replicate products seamlessly through a consistent API layer across geographies.

Self Service

- Drive self-service and reuse by creating awareness of the assets available.
- With API catalogs business leaers and product managers can effectively build new products and features in an almost no-code environment

Reduce IT Complexity

- Rationalize IT assets across the enterprise.
- Containerized, modular services can be selectively exposed to channels making them lightweight Easing the pressure on IT and freeing up time for innovation.

Enabling Parallel Development

• By creating API libraries that are independent of application code, it's possible to run multiple development efforts in parallel, instead of single-threaded development, enabled by shared resources.



Figure 2: API Led Modernization

Back to Front Modernization – Implementation Considerations

Achieving core banking platform modernization using the "back to front" approach involves a systematic series of steps to upgrade or replace the back-end infrastructure and processes before focusing on the customer-facing front-end components. Here are the key steps involved in this approach:

1.. Assessment and Planning:

- Start by conducting a comprehensive assessment of your current core banking system, identifying its strengths, weaknesses, and areas that require modernization.
- Set clear objectives and goals for the modernization project. Define what you
 want to achieve, such as improving operational efficiency, enhancing customer
 experience, or ensuring regulatory compliance.

2.. Select Modernization Technology:

- Choose the technology stack and solutions that will form the foundation of your modernized core. This may involve selecting new core banking software, database systems, and infrastructure components.
- Evaluate vendor options, considering factors like scalability, flexibility, security, and compliance capabilities.

3. Business Process Re-Engineering

- Identify inefficiencies, redundancies, and areas where technology can streamline the process
- Work closely with business analyst and stakeholders to redesign required processes based on best practices and industry standards
- Adopting industry standard processes implemented by core banking platform provider as much as possible to reduce time to market

4. Data Migration and Cleansing:

- Plan for data migration from the legacy systems to the new modern core banking infrastructure. Ensure that data is cleansed, validated, and transformed as needed to maintain accuracy and integrity.
- Develop a robust data migration strategy to minimize data-related risks and ensure a smooth transition.

5. Back-End System Integration:

- Integrate the modern core components with existing legacy back-end systems, if necessary. This integration may involve creating APIs, data connectors, and middleware to facilitate communication between old and new systems.
- Test the integration thoroughly to identify and resolve any compatibility issues.

6. Regulatory Compliance and Security:

- Ensure that the modernized core banking platform comply with all relevant regulatory requirements. Implement security measures to protect customer data and financial transactions.
- · Conduct regular audits to verify compliance and security standards.

7. Front-End Development:

- Once the new core banking platform is stable and functional, start developing or upgrading the customer-facing front-end components. This includes user interfaces, mobile apps, and online banking portals.
- · Focus on creating a seamless and user-friendly customer experience.



8. Integration of Front-End and modernized core:

- Integrate the new front-end systems with the modernized core. Ensure that data flows smoothly between these components and that customer transactions are processed efficiently.
- Conduct integration testing to verify that the entire system functions as expected.

9. Deployment and Monitoring:

- Roll out the modernized core banking platform to production. Monitor the system closely during the initial stages to identify and resolve any issues quickly.
- Implement a robust monitoring and maintenance plan to ensure the ongoing stability and performance of the platform.

10. User Acceptance Testing (UAT):

 Involve bank employees and, if possible, a select group of customers in UAT. Gather feedback and make any necessary adjustments to ensure the front-end meets user expectations.

11. Operational Testing:

- Perform extensive testing of the modernized core banking platform to ensure they operate reliably and efficiently. This includes stress testing, load testing, and performance testing.
- Identify and address any bottlenecks, issues, or bugs that may arise during testing.

12. Training and Change Management:

- Train bank employees on the new core banking platform and processes. Provide resources and support to help staff adapt to the changes.
- Develop a change management plan to address any organizational and cultural shifts resulting from the modernization.

13. Customer Communication:

- Communicate transparently with customers about the modernization process, especially if there are temporary disruptions in services. Highlight the benefits of the upgraded platform.
- Core banking platform modernization using the back-to-front approach is a complex process, but it can result in a more efficient, customer-centric, and competitive banking environment when executed carefully and methodically.

Tech Mahindra Offerings

We provide end to end SI services for core banking transformation. From legacy modernization to upgrades, our expertise in cloud, open banking, automation, analytics, regulatory and risk requirements, and other latest technologies, will ensure your seamless transformation journey. Click here to read more about our services.

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Gopinath has 20+ years of progressive expertise in Core Banking Product Consulting, Business process Analysis, Project / Program Management and Solution Architecting. He has been a Lead Business Analyst for large scale Business Analysis and Solution Consulting Assignments, with expertise in Requirements elicitation, analysis, specification and management. Apart from that he managed multiple end-toend core banking implementation / upgrade projects and has good understanding of standard implementation methodologies, integration / migration frameworks.



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