

Digital Core–Banking: A Perspective



Introduction

Core banking is redefined as "Centralised online real-time exchange" by Darmesh Mistry, a renowned international banking and technology consultant, author, and influencer. He describes core banking technology as "software that manages accounts—such as current accounts, deposits, or loans." Ideally, the core banking system should be the 'single source of truth' for banks. However, traditional banks often operate multiple core systems across different product lines, leading to a fragmented source of truth.

The banking and financial industry is experiencing unprecedented innovation. Digitisation has introduced significant competition for traditional banks from various digital disruptors. These challengers leverage diverse technologies to address inefficiencies and offer simpler, cheaper, and superior services. They often collaborate with partners to develop and deliver services quickly, unencumbered by legacy systems and existing revenue streams that can hinder change.

Digital core banking is not just about eliminating paperwork. It must evolve to incorporate tokenisation, blockchains, cryptocurrencies, and genuinely digitised, cashless transactions. This transformation requires a comprehensive re-evaluation of the core banking products and the code supporting them, updating decades-old systems to modern enterprise architectures. It must also accommodate cross-border, multi-currency transactions, including both fiat and digital currencies, integrating new channels and modernised core systems.



Modernisation by Traditional Banks

Traditional high-street banks are undertaking the modernization (digitization) of their core systems. However, legacy systems pose significant challenges due to their complexity, cost, and risk. Furthermore, banks must continuously adapt to new regulatory requirements and enhance their existing services.

In their modernization efforts, banks often retrofit a digital solution 'wrap' around existing systems, focusing on technology implementation rather than fundamentally rethinking the core business impact. Several key factors contribute to this approach:

1. Fragmented Vision:

Stakeholders have visions focused on their specific sub-domains, lacking an overall view of the target model.

2. Lack of Digital Currency/Token Integration:

Digital currencies and tokens are often not considered or integrated into the core systems.

3. Misconception of Digitization:

Digitization is seen as merely adopting digital equipment seamlessly rather than rethinking the basic architecture from first principles.

Typically, banks perform quick updates by patching existing systems or using workarounds to meet deadlines and budget constraints, resulting in technical debt and inefficient services.

Neobanks, fintechs, and digital exchanges introduce competition beyond traditional banks. These new players, unburdened by legacy constraints, threaten the primary business of conventional banks.

To stay competitive, traditional banks must transform into true digital banks by adopting a "Digital Core-Banking" solution. This document outlines the steps to create such a solution.



Client Expectations

With Gen-Z emerging as the new customer base, banks face the dual challenge of satisfying both conventional and Gen-Z customers. A new-age Digital Core-banking solution must address the following expectations:

- **Faster and Cheaper Services:**
 - visions focused on their specific sub-domains, lacking an overall view of the target model.
- **Personalised Services:**
 - Customers expect hyper-personalised services. Many, especially HNI, corporate, and business banking customers, use multiple banks and prefer personalised recommendations and alerts. Deep personalisation enhances customer retention and reduces acquisition costs.
- **Anywhere, Anytime, Anywho Service:**
 - Banking services must be available 24/7, allowing customers to communicate via their preferred channels, ensuring quick resolution of issues.
- **Tools and Advice:**
 - Automated financial advice should be available, providing high-quality, personalised advice at a lower cost. Human interaction remains crucial for high-stakes advice and tasks, supported by AI and intelligent RPA.ensuring quick resolution of issues.
- **Easy Comparison and Selection of Financial Products and Services:**
 - The solution should identify and bundle the most suitable products and services based on customer needs.nicate via their preferred channels, ensuring quick resolution of issues.
- **Security:**
 - Robust, simplified security processes are essential to protect against cyber fraud and threats.
- **Niche Services:**
 - HNI and corporate/business banking customers require control over their finances and transactions, facilitated by embedded finance, programmable money, and programmable payments.
- **Value Beyond Products and Services:**
 - Customers expect high-value-added services and management channels, such as augmented reality coupons, loyalty programs, digital receipts, and AI-supported financial management assistance.

Gen-Z customers prefer managing their banking needs via mobile phones, while traditional customers prefer personal attention through branch visits.

Digital Core-Banking

Digital core banking offers banking services through digital platforms, eliminating paperwork. It must support new digital currencies, cryptocurrencies, and other digitised financial instruments alongside conventional currencies. The digital core banking solutions should focus on agility and simplicity to provide quick, efficient, customer-centric solutions and respond swiftly to the changing business landscape. The solution must handle transactions in real-time, providing immediate updates to customer accounts and enabling faster financial transactions. Most importantly, it must address all customer expectations, as outlined in the previous section.

Transforming into a 'Digital Bank' requires traditional banks to rethink their core architecture and redesign it as a Digital Core Banking architecture. This cannot be achieved by merely adding new digital devices or retrofitting requirements. It requires a foundational shift in business architecture, process models, and operating models.

Nihilent has architected the Digital Core-banking model using 'First Principles Thinking.' The following considerations were taken into account while crafting it:

1. Customer Expectations from a 'Digital bank':

- Retail Customers – both current conventional and Gen-Z
- Corporate / Business Banking Customers

2. Different Types of Currencies & Assets:

- Current conventional
- Digital (Third party & R-CBDC & W-CBDC) – Both 'Normal' and 'Programmable'
- Tokens
- Cryptocurrencies

3. Open Finance (Earlier 'Open Banking') Requirements:

- Security & Risk Management requirements
- Access Management and Controls
- oRegulatory requirements



Approach for Transitioning to Digital Core-Banking

Traditional banks must plan their transition to a "Digital Bank" with a Digital Core banking architecture without disrupting current business operations. If a bank is already on a modernization journey, it should reassess its new core architecture and align it with the Digital Core Banking architecture. Nihilent can assist in this transition.

Five-Stage Transition Program:

1. Strategic Vision and Leadership Commitment:

Executive commitment is crucial. Align the modernization program with the bank's strategic vision of digital transformation and customer-centric banking. Address target technology, integration of new technologies, client expectations, regulatory compliance, and market dynamics.

2. Assessment:

Evaluate current systems, maintenance experience, dependencies, potential bottlenecks, scalability, and adaptability issues. Identify challenges in the current modernization program, assess current infrastructure and technology stack, operational issues, security, compliance challenges, and customer feedback.

3. Design and Planning:

Use Nihilent's Digital Core-banking Business Architecture as the base to create information architecture, technical architecture (preferably microservices), technology architecture, API design, data management, and migration strategy, operational model, security architecture, and regulatory compliance architecture. Develop a phased implementation plan with no or minimal disruption to the current modernization program.

4. Transition:

Ensure readiness of the team and technology infrastructure. Conduct phase-wise transitions, migrating, developing, buying COTS products, or white-labeling fintech products as per the assessment stage decisions. Conduct comprehensive testing, provide training, and monitor system performance during each deployment phase.

5. Optimise and Improve:

Enter a BAU state involving maintenance activities, continuous improvement, and continuous enhancement.

Adaptation of New Technologies

Blockchain & Tokenisation:

Pilot blockchain for internal use cases like secure document verification. Integrate tokenisation with new digital core banking for assets and customer loyalty programs.

Cryptocurrency:

Start with wallet integration, crypto-to-fiat conversion, and compliance with regulatory standards. Partner with cryptocurrency exchanges for seamless crypto trading and investment options.

Digital Payment Solutions:

Expand digital payment solutions, including mobile payments, QR code payments, and contactless payments. Enhance mobile banking applications to cater to the demand for cashless transactions.

Cross-Border and Multi-Currency Transactions:

Support multi-currency transactions, including cryptocurrencies and cross-border payments. Collaborate with international payment networks and fintech partners. Ensure compliance with international standards and regulations.

Security:

Implement advanced security measures such as end-to-end encryption and multi-factor authentication. Regularly perform security audits and penetration testing.

Regulatory Compliance:

Ensure compliance with financial regulations, including AML and KYC requirements. Maintain comprehensive audit trails and reporting mechanisms.

Data Migration:

Address challenges in data migration, especially for accounting digital currencies. Ensure real-time data synchronisation and integrity.

Challenges

Traditional banks may face several challenges during the transition:

1. Migrating legacy applications to new technology, particularly data migration.
2. Ensuring robust cybersecurity and fraud prevention.
3. Achieving 24/7 availability while maintaining traditional operation windows.
4. Accounting for digital currencies, especially in cross-border payments and settlements.
5. Handling fungible cash and digital currency payments.
6. Allowing multiple partial payments with cash and digital currency.
7. Managing multi-base currencies with digital currency options.

Conclusion: For traditional banks, modernising by implementing a Digital Core Banking solution and integrating technological disruptors like blockchain, cryptocurrencies, and digitised payments involves a strategic, phased approach. By transitioning to a microservices architecture, leveraging middleware and APIs, and enhancing security and compliance, banks can successfully navigate modern banking challenges and provide innovative, customer-centric services. This transformation positions banks as forward-thinking leaders in the digital age.



Sundaresan Narayanan

Consultant • Executive Directors Office

About Nihilent

Nihilent is a global consulting and services company that uses a human-centered approach for problem-solving and change management. Nihilent's comprehensive range of expertise in customer research, process and technology enables newer heights of business performance.

www.nihilent.com

USA | India | Australia | South Africa | Sweden | UK



**/ Humanizing
Technology**