

Embarking on Progressive Modernization to Build a Digital Bank

Whitepaper



Table of Contents

1	Significant Banking Trends and the Constraints Caused Due to Product-centric Architecture of Legacy Systems	03
2	The Need for a More Responsive Digital Core for Agility and Customer Centricity	06
3	Embarking on Progressive Modernization to Reduce Technical Debt	09
4	Key Steps to Implementing Progressive Modernization	12
5	Imperatives and Outcomes of Progressive Modernization	14
6	Conclusion	16

Significant Banking Trends and the Constraints Caused Due to Product-centric Architecture of Legacy Systems

Banks around the world have been buffeted by a combination of forces exerted by customers, competitors, and regulators. The COVID-19 pandemic has further exacerbated the situation. Several key trends are clearly visible in the sector internationally.



Rising customer expectations

Customers are no longer satisfied with their bank offering them a range of banking products and services. In a digital world, they expect convenient, secure, personalized solutions that are delivered seamlessly, efficiently, and cost-effectively. Fine pricing differences impact the bottom-line of businesses, and CFOs, treasury teams and business leaders are constantly looking for opportunities to save costs.



Entry of new competitors

Older banks find themselves squeezed between two distinct categories of new competitors. While neo banks with modern systems are inherently well-positioned for the digital era, fintech and big tech players are leveraging their proximity to customers to offer banking services. This accelerated blurring of boundaries is adversely affecting the bank's revenues and profitability.



Tightening regulations

The rising emphasis on privacy, mis-selling, fairness, and transparency is increasing the cost of non-compliance as also exposing banks to the associated reputation risks. Some competitors do not face the regulatory burden and scrutiny that banks do – notably big tech players, which makes for a non-level playing field.

Leadership teams recognize that getting back to a path of sustainable growth requires banks to become more responsive to customers. They realize that agility and innovation will be vital to their ability to differentiate from competition (or in some cases, just catch up with them), so that they can retain existing customers and attract new ones. Despite this awareness, most banks have not been able to take the necessary steps to boost their agility, enhance their pace of innovation and become more customer centric. This inability is largely due to various issues inherent in legacy technologies and systems. An article in Forbes quotes a finding from a 2019 study by Cornerstone Advisors: nearly 70% of the respondents perceived their institution's technology infrastructure as a barrier to digital transformation.¹

Even today, some large and well-established global banks rely on legacy systems that were originally built 30 years ago or even earlier. These legacy systems were developed in programming languages such as COBOL, using then-prevailing software engineering standards and practices. The hardware platforms for which these systems were developed were also very different. Obsolescence and maintainability issues apart, the "technical debt" associated with such legacy systems has to do with the fact that they were architected and built around products (e.g., deposits, checking accounts, credit cards etc.) and not around customers (as modern banking platforms are).

Although numerous tweaks have been made over the decades, these legacy systems are still the “systems of record” for many banks. Importantly, this means that data pertaining to the multiple banking products consumed by even the same customer are spread across disparate silos.

The constraints imposed by the product-centered architecture of legacy systems have become even more significant in the face of rising customer-centricity expectations. In a multi-channel banking world, customers rely ever more on digital channels. Legacy systems force a substantial time-lag between when customers make an enquiry or complete a transaction and when the bank’s front-end systems get access to updated data. Not having access to customer data updated in real time limits the ability of an institution to get a unified view of their customers. It also reduces their agility to respond, for example, in sending out marketing communications around specific offerings or bundles via email, SMS, and mobile apps. Such shackles impede a banks’ ability to compete.





78%



172.29 - 4.49

1,023.88 - 13.73

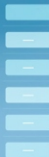
0.00 + 0.00

24,285.95 -178.74

6,952.86 - 7.46

11,192.69 + 54.20

25,927.68 - 91.73



The Need for a More Responsive Digital Core for Agility and Customer Centricity

The rapid evolution of internet-based and related technologies has facilitated the shift from “branch banking” to “anytime, anywhere banking”. Banks have freed customers from being tied to a specific branch or channel, by enabling omni-channel access. Customer experience at branches has improved through better “self-service” capabilities (e.g., smarter ATMs, kiosks to print RFID-enabled passbooks, cash deposit machines etc.). Chatbots, smarter IVR, mobile apps etc. have given customers the flexibility to interact and transact conveniently and securely through multiple channels.

But superior omni-channel customer experience driven by front-end solutions is no longer enough. Banks must be able not only to respond to customer needs but also proactively anticipate customer needs by mining historical data and combining it with real-time analysis of their behaviors (e.g., browsing patterns, interactions with chatbots, conversations with relationship managers or enquiries at a bank branch, and external data such as e-commerce shopping patterns). Such analytics must lead to timely and targeted marketing and sales communications in the form of personalized solutions and offers. Such capabilities must be available to banks across their touchpoints with customers- digital channels, physical branches, call centers etc. Every customer interaction must be converted into an insight-based marketing or sales conversation and feedback gathered must be fed into the growing body of information about the customer. Creating a new agile digital core will allow even banks with legacy systems to match and outpace what competitors offer and differentiate. In turn, this will help attract new customers, and strengthen relationships with existing ones, so as to capture greater wallet shares and hence drive profitable revenue growth.

A responsive, insight-powered, data-driven core can deliver the following benefits even to banks with legacy core systems:



Unified relationship views to support decision-making

Corporate banking relationships span multiple geographies, legal entities, account types and offerings (e.g., payroll, corporate cards, foreign exchange, treasury etc.). Retail banking relationships too extend across accounts (members of a family). In both cases and in various similar paradigms, unified views can help banks understand customers and offer a personalized mix of products/services/prices that retain and grow value-accretive relationships.



Insight-driven customer engagement

Analytics based on customer behavior across channels, experiences, usage of individual products and overall relationship trends can all help generate valuable insights. Banks can use these insights to drive personal and timely engagement with individual customers and prospects, thereby increasing conversion rates. For example, someone looking for a credit card on a bank’s website can be quickly sent a personalized offer with an easy and convenient call-to-action to satisfy a perceived need.



Sustaining superior customer experience across channels

Convenience, speed and seamless execution are driving a growing number of customers to adopt digital channels. Pandemic-induced restrictions such as social distancing, periodic lockdowns and the curtailing of branch operations, call centers etc. serve as an additional “nudge”. But there will still be situations in which customers have to use a combination of conventional and new-age digital channels. Banks must ensure that even in such scenarios, customer experiences and journeys are just as smooth. For example, a customer facing a problem with online credit card payment may call a relationship manager or a phone banking number for resolution. Not having access to updated customer data in real time can impede the bank’s ability to resolve the issue and thereby, jeopardize relationships.



Faster innovation

A relationship-driven configurable core can efficiently capture insights about individual customers and their preferences, thus helping in faster identification of patterns that speed up product level innovation.



Increased speed of conducting business to build loyalty

Time is becoming a tangible basis for competition. Customers, especially the growing segment of “digital natives”, expect instant account opening, for example. With neo banks offering instant account opening through an all-digital process, customers who value time (in addition to convenience, ease of use, seamless access, privacy, and lower costs), are quite willing to shift to other banks. Delays in retrieving historical data from legacy systems introduces latency. For example, a customer may need specific information while filing his/her income tax returns. But if this request needs 24-48 hours to be fulfilled even in self-service mode, it creates the impression that the bank is not customer friendly or responsive. Such perceptions can trigger customer churn. Fickle customers represent a risk to revenue growth, especially if they are in the bank’s Tier 1 or high-value category.



Efficiently manage product portfolios for value to the bank

Product management teams can monitor performance of various products and bundles to make more informed and timely decisions around which ones to expand, withdraw or modify or what applicability criteria to use. This gives banks a more effective way to manage their product/solution portfolios based on objective and transparent linkages to their revenue and profitability.



Orchestrate collaborative ecosystems

Banks must be able to explore the possibility of forging alliances with various third-party service providers, to further drive customer centric solutions. This becomes easier when there is an agile digital core, that is able to orchestrate the overall ecosystem, driving value exchanges across the various stake holders. The greater the helpful interventions, the greater the customer satisfaction derived, and more the avenues for revenue.





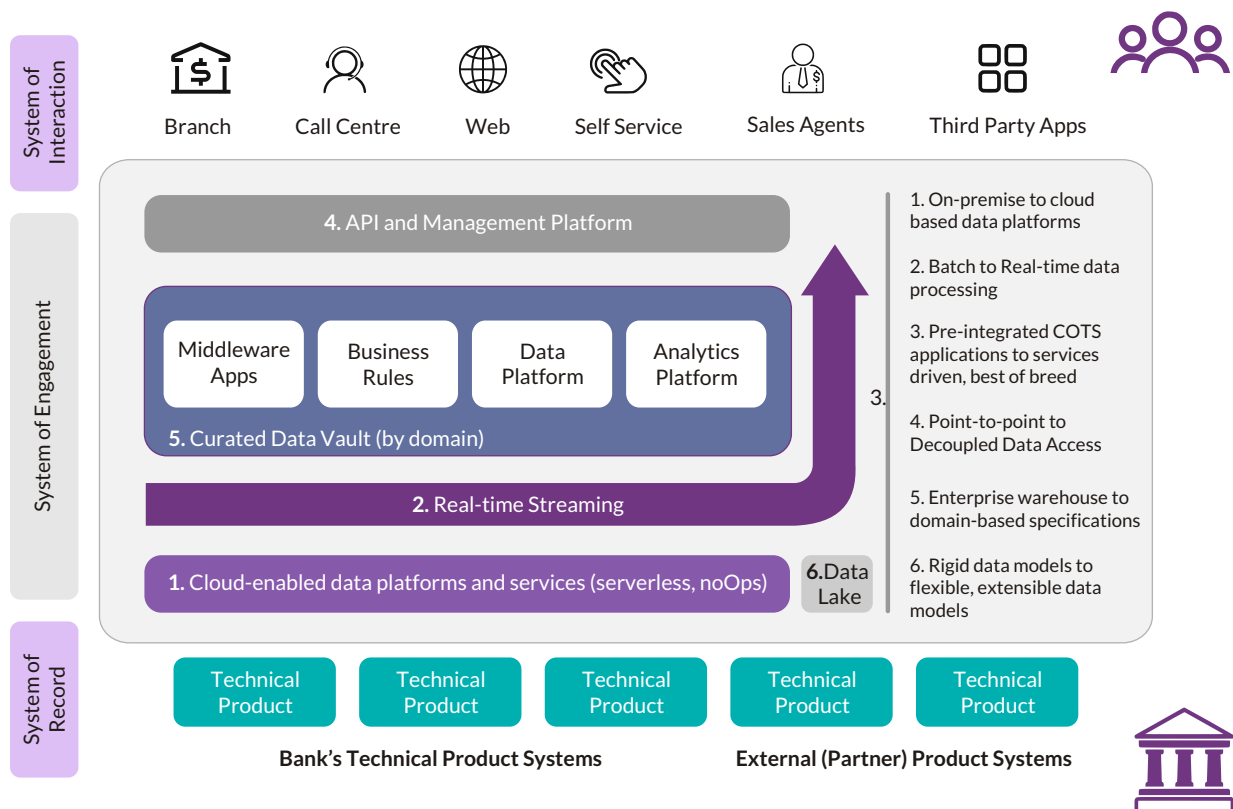
Embarking on Progressive Modernization to Reduce Technical Debt

Banks burdened by the “technical debt” of their legacy systems need to acquire the requisite capabilities to deliver greater agility, innovativeness, and customer-centricity. Legacy modernization approaches in the past have addressed specific processes or applications or enabled upgradation of hardware. In the digital era, achieving such limited-scope objectives is no longer enough; the road ahead must meaningfully combine modernization with transformation in a way that minimizes risk, cost and investment while creating a new digital core that reduces dependency on the legacy core.

A “progressive modernization” approach delivers exactly this by engineering a calibrated shift from a siloed to layered architecture. Not only is this layered architecture easier to work with, but it also enables banks to prioritize their transformation agenda and take regular steps forward to modernize various elements - hence “progressive modernization”. The legacy platform remains the system of record, but customer enablement functions critical to the institution’s agility and innovation are moved from the legacy to a newly created API-ready and componentized “middle layer”.

This agile, modular, and flexible middle layer reduces the bank’s dependence on the legacy applications through phased decoupling. The middle layer houses all business rules and algorithms required to deliver superior customer experiences across touchpoints, products, services, and locations. It thus also becomes a foundation for an open ecosystem to drive customer interactions and innovative collaboration across channels using best of breed software or integration of third-party solutions. This approach facilitates adoption of modern technologies such as AI, ML, blockchain etc. It allows more efficient use of existing third-party solutions catering to different aspects of the bank’s operations (e.g., e-wallets and payments, AML, KYC, credit card, transaction monitoring, marketing etc.).

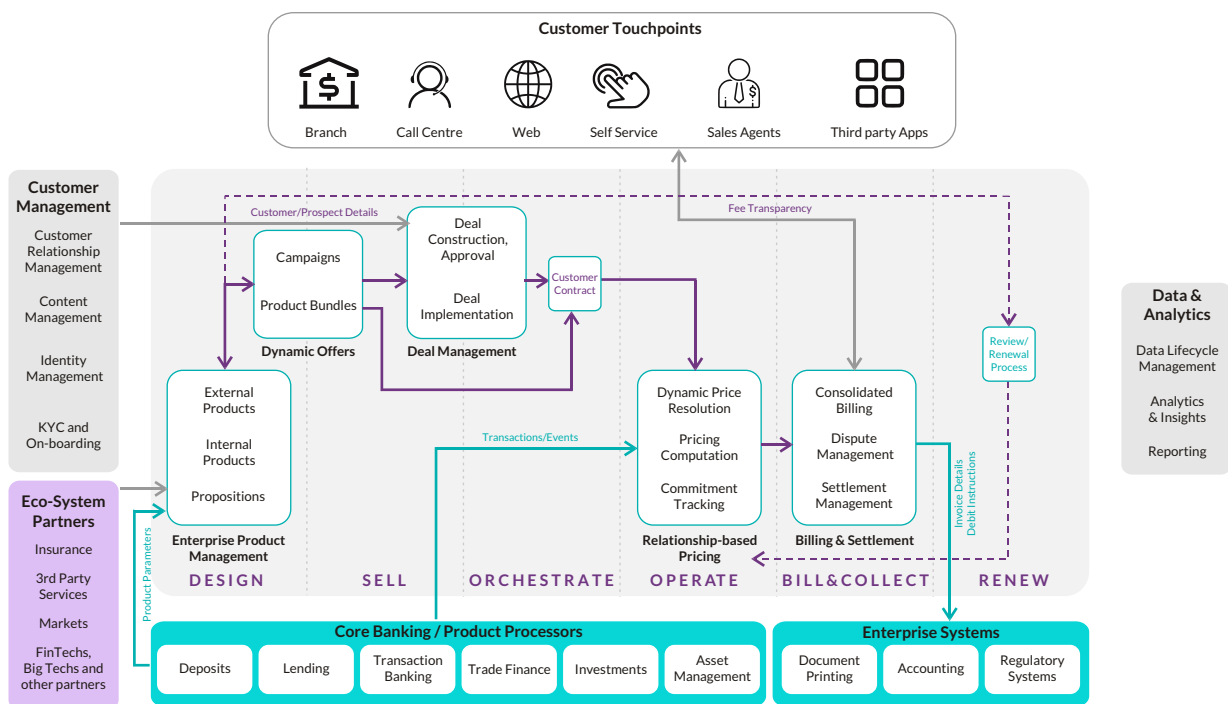
The concept is diagrammatically represented below.



The progressive modernization approach consciously makes the middle layer the “master” for all products, services, and corresponding offers – including third party products and bundled offers. This is coupled with a rule driven capability to manage pricing, eligibility and qualifying conditions providing an agile configurable and responsive catalogue. Banks can analyze and profile customers by juxtaposing historical data with current patterns to create personalized offers. This layer gives them intelligent capabilities driven by enterprise relationship rules as well as real-time analytics using both structured and unstructured customer data. Collectively, this increases the likelihood of purchase decisions because the solution proposed, and its pricing are:

- Better aligned with the customer’s needs
- Presented to customers proactively

Easy configurability of such rules, along with real-time relationship data (across transactions, products, and entities) empowers product/relationship managers to proactively monitor and track performance of various offerings and make necessary tweaks to optimize revenue and profitability without comprising on customer centricity. The diagram below illustrates this.



In effect, progressive modernization moves the bank’s engagement channels from the legacy systems of record to a new digital core that delivers intelligent and agile capabilities. This decoupling significantly reduces the impediments to agility and personalization that the market increasingly demands, but banks are unable to deliver because of their monolithic systems. This approach enables them to take a big and tangible step forward towards truly “owning” their customer relationships. Banks that are constrained by their legacy systems get the opportunity to better defend their turf against competitors who are systematically nibbling away at their customer base. Simultaneously, the progressive modernization approach is also a way forward to reduce their “technical debt”.

By adopting this approach banks can achieve phased modernization and transformation without the costs and risks typically associated with complex, big bang “rip and replace” approaches to legacy system modernization. This is an important consideration. As per McKinsey’s May 2019 estimates, 70 percent of banks were reviewing their core banking platforms due to concerns about the limitation of their core architecture and slow pace of change.ⁱⁱ



Online Banking

Personal Account
Account Details

\$ 5,678.99
Current Balance

Mobile Payment

\$ 5,678.99
Current Balance

Personal Loan

\$ 5,678.99
Current Balance

Deposites

\$ 5,678.99
Current Balance

Bank Visa
12345678

Last Payment 2022-02-20

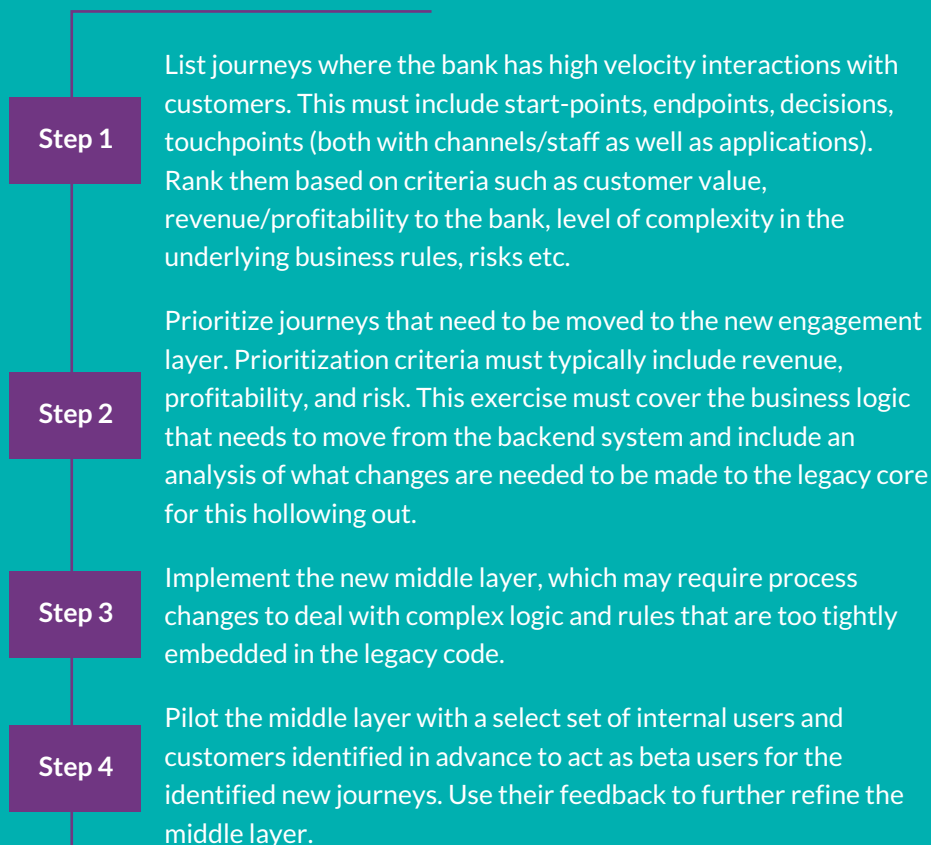
\$ 2,678.99

Log Out

- Transfers
- Saving
- Setting
- Messages

Key Steps to Implementing Progressive Modernization

To optimize value in terms of speed, investment, risks and achievable business outcomes, the journey of progressive modernization must begin with areas that are business-critical for banks. In the current scenario, this means those areas that directly impact customer experiences. Accordingly, we recommend a three-step process to determine the contours of your bank's path to progressive modernization:



In the context of delivering customer-centricity through higher levels of agile personalization and intelligent pricing, our approach to creating and implementing the digital core (the new system of engagement) involves the following main steps (in no particular order):

- Extracting the pricing functionality out of the legacy core and creating a dynamic enterprise capability to manage all pricing.
- Extracting all market facing product variations and offerings to the middle layer and creating an enterprise product/offer catalogue leaving the legacy core to be a pure product master.
- Making the new middle layer the enterprise-wide revenue management platform covering all processes from design to bill to settle for all products across the bank's lines of business.
- Helping banks expand its ecosystem through on-boarding third party partner products and hence expanding choice for customers.

Imperatives and Outcomes of Progressive Modernization




Progressive modernization offers a robust, structured, targeted, roadmap-based, outcomes-driven approach for banks to efficiently prioritize their business and technology imperatives and move forward to address them. It helps banks that are constrained by legacy core banking systems to achieve several important business and technology imperatives such as those listed below.

Business imperatives	Technology imperatives
<ul style="list-style-type: none"> • Transform the bank from being a reactive seller of products to a proactive provider of personalized solutions to all customers. • Enhance customer journeys by making them tangibly superior through behind-the-scenes improvements such as model-driven capabilities around customer analytics, straight-through processing, dashboards and on-demand reports, automated compliance etc. • Restructure business models, processes, and internal teams to optimize innovation, cost-effectiveness, and service delivery. • Expand the bank's ecosystem to enhance customer experience and responsiveness and enable agile and seamless delivery of innovation, thus boosting loyalty of existing customers, deepening and broadening relationships, and attracting new customers. The net result: higher and more sustainable growth in revenue and profitability. 	<ul style="list-style-type: none"> • Shift from the siloed, monolithic legacy architecture into an architecture that can be managed more easily (e.g., by creating integrated and holistic view of relationships) • Embrace a service-oriented design that makes future changes faster, less risky, and less expensive. • Enable easier absorption of third party packaged solutions into the technology mix, enabling adoption of new technologies such as AI-ML, blockchain etc. The net result: higher and more sustainable growth in revenue and profitability.

The progressive modernization approach has the potential to deliver multiple outcomes that align with the above-mentioned imperatives. These can be measured using specific KPIs, a few of which are listed below:

- Reduced cost income ratio
- Improved customer retention ratio
- Increased rate of customer acquisition
- Increased depth of relationships reflected by product holdings
- Drastic reduction in time to market
- Reduction in revenue leakage
- Increasing partnerships
- New sources of revenue as measured by revenue through partner products or new business models
- Improved net promoter scores due to superior customer experience
- Reduced customer disputes and time to resolution

A snapshot of some of the tangible business benefits realized by banks that have adopted a similar approach are presented in the table below.

 Banks	 Business challenge	 Impact of adopting progressive modernization
Tier 1 global European bank	Long time to market due to expensive and long product development cycles	Time to launch reduced to approximately 10 days; reduced cost to market by 70%
Leading bank in the Middle East	Slowdown in growth with stagnated revenues	Product penetration index increased by 200%; achieved a 12% increase in share of customer wallets
A large South African bank	Rising customer attrition	In less than 6 months, successfully reversed the trend of customer attrition; added 100,000+ new customers Improved product to customer ratio Increased the bottom line by 10%
A Malaysian bank	Stagnating revenues due to low customer acquisition and dipping popularity of basic products like deposits	Within 2 months of launching personalized campaigns, the rate of deposit growth saw a 4x increase and new customer acquisition went up 3x. Additional deposits of \$200 million were garnered
One of the largest banks based in the Nordics	Revenue leakage	Automation of the end-to-end process resulted in annual savings of approximately €3 Million from a single country
A global tier 1 European bank	Revenue leakage	Plugged revenue leakage of \$15.50 million per annum for one line of business in one country
A high street bank in the UK	Operational inefficiencies leading to higher costs	Realized savings of more than \$9 million per annum in their corporate business due to automation
One of the largest investment banking firms in the world	Risk of penalties and reputational damage due to compliance delays	Reduction in time for remediation compliance from years to a few days

Conclusion

A strong brand is no longer enough for banks that are burdened by legacy systems. The constraints imposed by legacy systems hamper their efforts to respond with agility and nimbleness to a rapidly changing business environment that values customer-centricity. Adding third-party applications on top of the core provides functionality but not the real-time agility that customers increasingly expect.

Replacing legacy systems as a whole is expensive; it is also a complex and risky task that can potentially disrupt business and harm reputation. Customers today have a larger number of service providers to choose from than ever before and are becoming less loyal. As a result, a big-bang approach is fraught with even greater danger. Banks need to quickly decouple from their legacy cores to acquire the digital capabilities they need to remain relevant in the years ahead.

Progressive modernization of legacy systems offers a structured way for banks to achieve their objective of being able to take a truly customer-centric approach instead of being forced to work with a product-centric view. The approach involves gradually moving customer engagement logic and rules from the legacy system to a new middle layer. This new and agile digital core is the engine for driving product innovation as well as superior customer experiences on all their journeys with the institutions. This approach delivers modernization along with transformation. Also, in addition to lowering risk and cost, this approach delivers tangible and clearly measurable results in relatively short periods of time.

Authors



Madhur Jain

Madhur Jain is the SVP & Global Head – Solution Consulting of SunTec Business Solutions. He has 25 years of experience with specialization in the Financial Services industry with specific focus on Cross Industry Convergence, Open Banking & Monetization, Digital Transformation, Business Innovation, Customer Centricity and Customer Experience Management.



Chae H. An

Chae is the technology leader for IBM's Core Banking and Payments business in the US, focused on helping banking clients in their core and payments transformations. Previously, he was the CTO of IBM's Global Financial Services with worldwide responsibility for the technical strategy and architecture for business solutions. Chae has been providing architectural guidance and strategy on new technical innovations such as blockchain, digital transformation, next-gen banking architecture, and open banking. He is currently a member of the board at BIAN, a global standards organization aimed at developing industry standards for banking services.

Source

ⁱ <https://www.forbes.com/sites/ronshevlin/2020/07/06/bankings-delusions-of-digital-transformation/?sh=583b7d454e12>

ⁱⁱ <https://www.mckinsey.com/industries/financial-services/our-insights/banking-matters/next-generation-core-banking-platforms-a-golden-ticket>

About SunTec

SunTec is the world's No. 1 pricing and billing company that creates value for enterprises through its Cloud-based products. More than 130 clients in 45+ countries rely on SunTec to provide hyper-personalized products, offers, pricing, loyalty programs, and billing for over 400 million end-customers. SunTec products are based on our cloud-native and cloud-agnostic, API first, micro-services-based proprietary platform, Xelerate and are delivered on-premise, on private cloud and as SaaS. SunTec has global operations including the USA, UK, Germany, UAE, Singapore, Canada, Australia and India. For more information, please visit us at www.suntecgroup.com or email us at marketing@suntecgroup.com

About IBM

IBM is a leading provider of hybrid cloud, data and artificial intelligence solutions to the global financial services industry. To learn more about IBM's solutions and insights for the global banking industry, please visit www.ibm.com/industries/banking-financial-markets