

Digital Engineering: Top Three Imperatives for Banks and Financial Services Companies

The pivot to digital is driving banks and financial services companies to embrace a **lean start-up mindset**.

The leaders are forming **Agile product teams and adopting modern work patterns and digital technologies** to recast the way they conceive, build and deploy their software products and portfolios.

We call this **digital engineering**.

In our work with banks and financial services organizations around the world, we analyzed the **top three challenges for digital engineering** and aligned them with successful strategies to achieve these goals.

IMPERATIVE 1: Retain and attract customers by rapidly introducing innovative features, services and experiences.

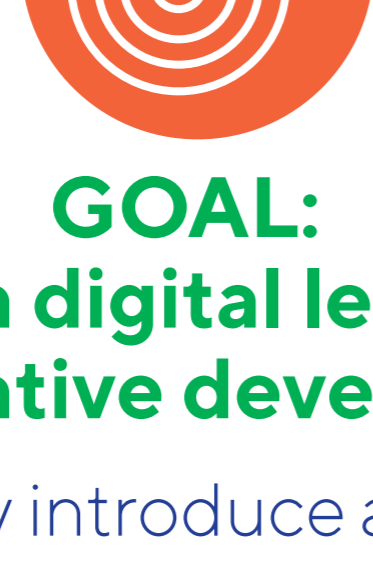
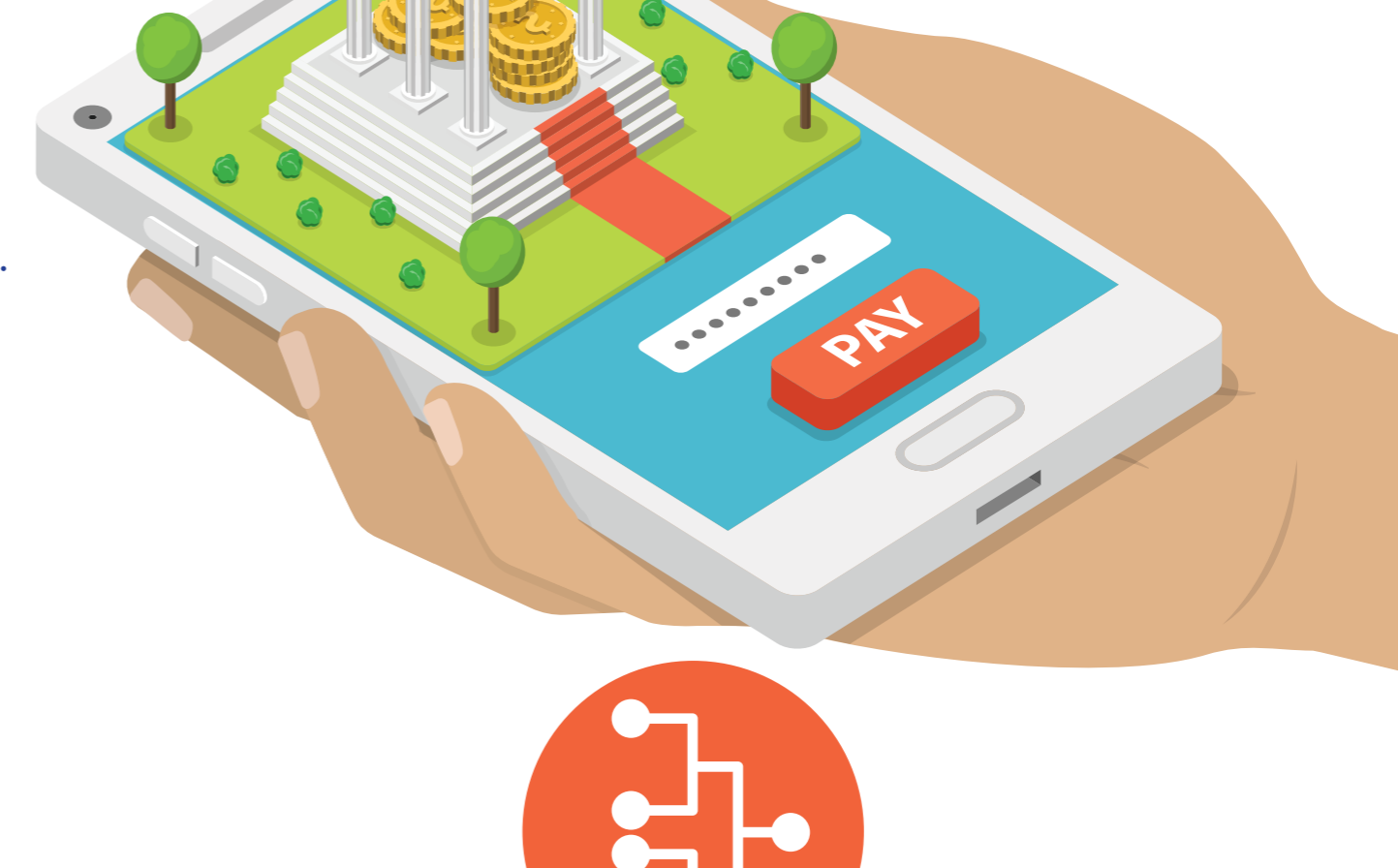


Incumbent financial institutions (FIs) face a growing threat from fintech start-ups with fresh ideas and the luxury of starting software development from scratch.

Established FIs must compete with new market entrants offering:

- Automated lending
- Zero-commission trading
- Robo-advising
- Artificial intelligence (AI)-informed personal loans
- Payment processing for Internet businesses and more.

New products need to appeal to millennials and Gen Z users, who have a mobile-first mindset.



GOAL: Become a digital leader with cloud-native development

To quickly introduce advanced digital services, banking and financial services organization need a new technology stack and way of working.



STRATEGY: Greenfield product engineering

Building new applications without the constraints of a legacy system — greenfield development — enables fresh thinking and accelerates innovation.

A greenfield approach to product development provides the benefits of a modern, cloud-native application architecture and platform with microservices, containerization, cloud enablement and API-driven development.

Through training, organizations can adopt modern software engineering practices, such as:

- Agile pods
- Lean start-up
- Hypothesis-driven and test-driven development
- Minimum viable product (MVP) increments
- DevOps
- Extreme programming

IMPERATIVE 2: Reduce or eliminate legacy technical debt.



Most legacy financial services applications include problematic code, often the result of poor engineering practices or repeated patching to add new features.

Technical debt:

- Erodes performance
- Escalates cybersecurity risk
- Impedes scalability
- Increases maintenance overhead



GOAL: Reduce legacy technical debt

To shift the technology budget from “running the business” to “changing the business,” organizations need to reduce their legacy technical debt.



STRATEGY: Application modernization

Cloud-native applications are built from self-contained components (microservices or containers) — often one per feature — that communicate via APIs. As needs evolve, developers can add components and APIs without changing what’s already there.

Application transformation or application modernization, typically involves incrementally refactoring and reengineering monolithic code to a cloud-native form.

To realize these benefits quickly and at scale, FIs need to look beyond technology modernization, and adopt:

- Product aligned Agile teams with full-stack engineers.
- Modern processes such as scaled Agile, Lean Agile and DevOps.

IMPERATIVE 3: Reduce data center costs.



Boards that have traditionally been skeptical of public and hybrid cloud security and benefits are now asking CIOs why migration is not already further underway.



GOAL: Reduce data center costs

Leaders in the banking and financial services industry are looking to their data centers to realize significant cost reductions.



STRATEGY: Lift & shift legacy applications to the cloud

When applications are moved from standalone servers to an on-premises or public cloud, their capabilities are not diminished.



When executed correctly, lifting and shifting produces immediate ROI by eliminating the cost of overprovisioning to accommodate peak loads.

We often recommend a hybrid cloud strategy — that is, hosting applications in both private and public clouds.

Looking ahead

The rapid pace of innovation in the banking and financial services sector won't slow down any time soon.

To maintain and increase market share, organizations will need the ability to very quickly add new services, features and experiences.

This requires a combination of people, modern processes and technology.

In the digital era, the advantage goes to organizations whose application portfolio is predominantly cloud-native.

A two-pronged approach is the best way for banks and financial services companies to make this journey.

- Moving legacy applications to a cloud-native architecture.
- The technology platform, people and processes for cloud-native development of new greenfield applications that impart a competitive edge.

To learn more, read our white paper “Digital Engineering: Top Three Imperatives for Banks and Financial Services Companies” at <https://cogniz.at/digitaleengineeringtop3>

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