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# Demystifying Digital Transformation in Banking

Where banks are getting it right and wrong

For banks undergoing a digital transformation, and banks that are about to embark on one, it can feel like a daunting, multi-year journey that is fraught with difficult decisions and a great deal of unknowns. A new survey of banking executives, jointly conducted by American Banker/Arizent Research and Thought Machine, reveals how U.S. banks and credit unions are approaching digital transformations, what they're getting right and where there are opportunities for improvement.

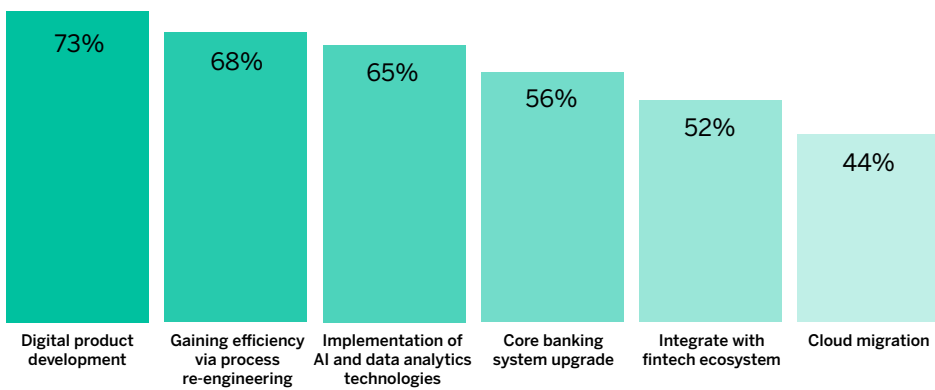
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## Many digital transformation initiatives are missing two key critical areas

According to the survey results, many banks and credit unions are embarking on digital transformation efforts with some common elements, such as, “digital product development” (73% of respondents), “gaining operational efficiency through process re-engineering” (68% of respondents) and “implementation of AI and data analytics technologies” (65% of respondents) (see Figure 1).

**Figure 1: Elements of Banks' Digital Transformation Strategies**



Source: American Banker/Arizent Research and Thought Machine 2021

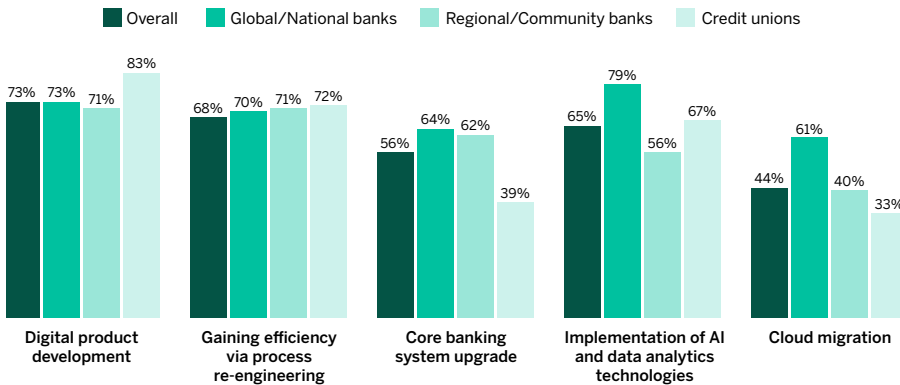
However, it is notably evident that many digital transformation programs are missing two critical areas – cloud strategy and core modernization. Only 56% of respondents report having core banking system modernization as part of their digital transformation strategy. Less than half (44%) have a cloud migration plan.

### Why read this report?

This report provides insights from a joint American Banker/Arizent Research and Thought Machine survey of 102 banking executives on how their organizations are approaching digital transformation initiatives, including cloud migration and core modernization. The financial institutions surveyed are global/national banks, regional/community banks and credit unions, with one-third (33%) of respondents having international operations.

While the goals of digital transformation vary across banks and credit unions, cloud migration and core modernization should be considered indispensable for banks to achieve the long-term objectives of their digital transformation programs (see Figure 2).

**Figure 2: Elements of Banks' Digital Transformation Strategies by Type**



Source: American Banker/Arizent Research and Thought Machine 2021

There are many proven benefits with the cloud: scalability, availability and flexibility, all of which are critical for banks and credit unions to operate in today's digital environment where transactions can be conducted anywhere, at any time. While computing power has dramatically increased over the years, the volume and complexity of financial transactions have also multiplied – putting constraints on machine resources. The ability to scale up to meet peak demands and scale down to conserve resources during low activity periods is important for banks to meet the demands of modern-day banking while gaining operational efficiency at the same time.

As explained in our executive summary, ***How Banks Can Win at Customer Experience Innovation***, we strongly believe that “the winning formula to support customer experience innovation is a dedicated focus on planning and teams, along with investments in critical infrastructure, such as core banking platforms that can enable sustainable and rapid innovation.” Most of what we have detailed in that paper to support the statement equally applies to the broader digital transformation journey.

**Core Banking**

**Modernization** is the process of ensuring that a bank's financial engine, which is used to process transactions, open accounts, etc., is growing in capabilities as technology continues to evolve and as the bank desires to engage with new partners.

**Product Development**

is the process by which new products are innovated to improve the customer experience and bring in new business.

**Cloud Strategy** refers to the move away from legacy on-premises systems toward the cloud where an institution can more nimbly react to customer needs and market opportunities, as well as more rapidly access the services of fintech partners.

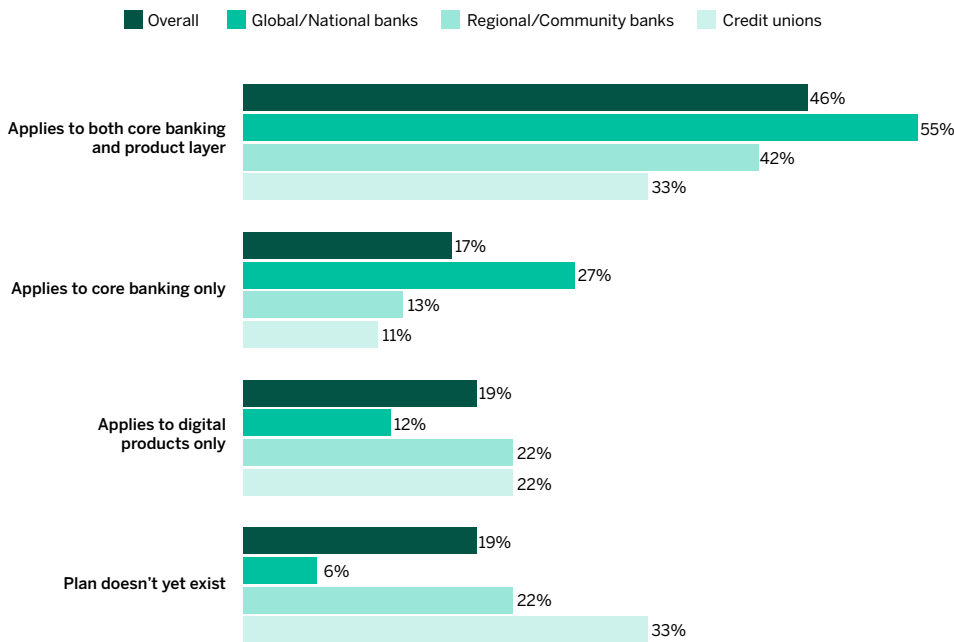
**Digital Transformation**

is the entire journey by which a financial institution seeks to digitize and automate its processes to improve its products and customer experiences, and expand into newer, untapped markets with speed and greater operating efficiency. While digital transformations are not new, the growing adoption of cloud computing is causing many transformation initiatives to include a cloud migration strategy.

## Less than half of respondents have a cloud strategy that pertains to both their core banking platform and product roadmap

More than half (55%) of global/national bank respondents have a cloud strategy that encompasses both their core banking platform and product development, compared with 42% of respondents at regional/community banks and 33% at credit unions (see Figure 3). More than one-third (36%) of all respondents are taking a much narrower focus in their cloud strategies by choosing to include either core banking strategy (17%) or product development (19%).

**Figure 3: Organization's Cloud Strategy**



Source: American Banker/Arizent Research and Thought Machine 2021

It is difficult to imagine a core banking strategy that is not tied to the cloud in the digital new world. A modern core needs to be cloud native, built in the cloud and for the cloud, to exploit all the benefits that come with cloud computing.

Equally hard to envision is a product roadmap that is not in the cloud. All new banking products, as well as legacy products, must be available online, for that is where customers are seeking to engage, making this a default requirement. Essentially, cloud, core modernization and digital product innovation are three siblings that can't live without one another in order to stay true to their missions in life.

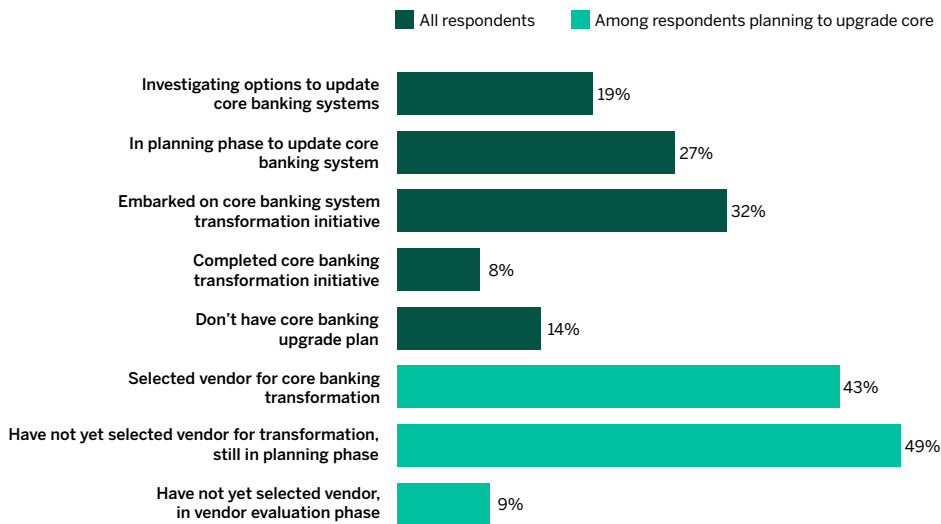
**“The challenge is that digital transformation strategies that don’t include a core modernization initiative are not achievable or sustainable over the long haul.”**

— Paul Taylor,  
CEO, Thought Machine

## A majority of banks haven't even started a core banking modernization journey

Only 8% of respondents report having completed core banking platform modernization, with another 32% stating that they have started their core modernization efforts (see Figure 4). In other words, 60% of banks and credit unions have yet to embark on core banking modernization. Among those that are on the core modernization journey, about half (49%) are still in the planning phase and have not yet selected a vendor for the initiative.

**Figure 4: Status of Core Banking Initiatives**



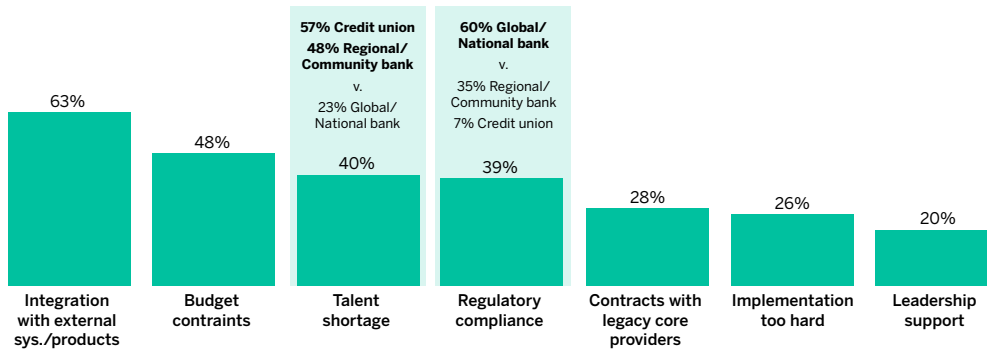
Source: American Banker/Arizent Research and Thought Machine 2021

Figures may not add to 100% due to rounding

Among the professionals whose institutions have yet to embark on a core modernization, half (48%) of global/national bank respondents have plans to modernize, compared with just 22% of those at regional/community banks and 6% at credit unions.

As we delve into the challenges of core modernization efforts, almost two-thirds (63%) of respondents identify “integration with external systems and products,” followed by “budget constraints” (48%) and “talent shortage” (40%) (see Figure 5).

**Figure 5: Top Challenges Facing Organizations with Core Banking Modernization Efforts**



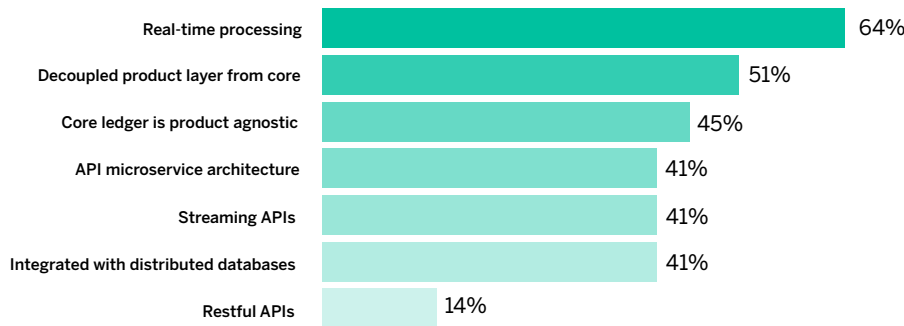
Source: American Banker/Arizent Research and Thought Machine 2021

This slow start to core modernization presents a potential risk for banks and credit unions in their efforts to innovate and capitalize on new market opportunities. While budget and talent are two well-known and acknowledged issues facing the industry, what many financial institutions don't realize is that a true modern core could have made it much easier to integrate with external systems and products, largely due to its API and microservices-based architecture design over legacy, monolithic systems. Avoiding or postponing core modernization will only further aggravate these issues, slowing banks down or even preventing them from moving forward with their digital transformation objectives.

**The two most desired capabilities of a next-gen core are real-time processing and separation of product development from the core**

Almost two-thirds (64%) of bank and credit union professionals undergoing or planning core banking modernization are considering having real-time processing as a capability of their next-generation system (see Figure 6). One likely reason that this is the most desired capability is that it can provide real-time data, which offers many benefits to the bank and its customers. For example, real-time data allows bankers to identify financial transaction trends as they occur, offering cross-sell or upsell opportunities while proactively and effectively mitigating fraud risks. Customers gain a comprehensive and realistic view of their financial state and therefore are better able to make timely decisions for their financial well-being.

**Figure 6: Planned Capabilities for Next-Gen Core Banking Systems**



Source: American Banker/Arizent Research and Thought Machine 2021

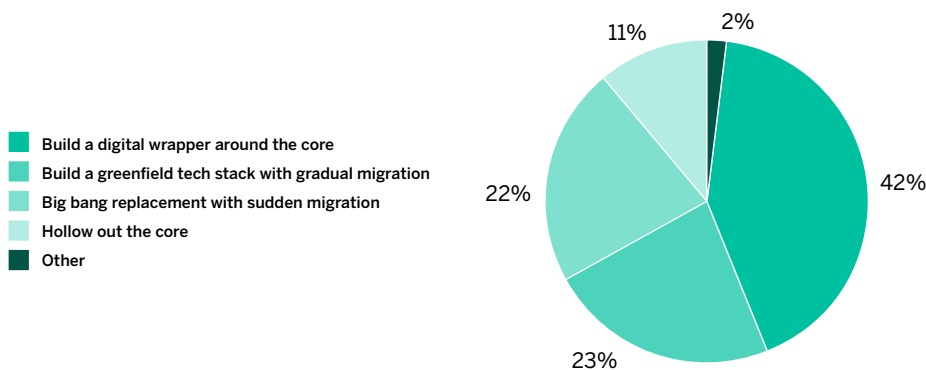
The second and third most sought-after capabilities mentioned for a core modernization are decoupling the product layer from the core at 51% and having the core ledger being product agnostic at 45%. Both are key capabilities of a modern core platform. For example, modern core systems usually consist of a configuration layer where new products can be added without having to modify the core.

### Banks are taking a wide range of approaches to their core modernization efforts

Among the banks and credit unions surveyed, there are four common approaches being adopted in core banking modernization initiatives.

The most common core modernization approach, according to 42% respondents, is to build a digital wrapper (a new digital customer experience) around the existing core. Since this approach doesn't require the creation of a new core where customers are rapidly or gradually migrated to it, yet remain on the existing platform, it could be viewed as less disruptive to the business (see Figure 7).

**Figure 7: Preferred Core Modernization Approaches**



Source: American Banker/Arizent Research and Thought Machine 2021

**“In planning for a next gen core, banks need to think about deploying real-time core systems, able to keep up with the transactional demands of open banking and the advent of instant payment networks; real-time analytics so banks can get better visibility into customer behavior and needs; and component/microservices-based architectures, to untangle the complexity of existing systems.”**

— Brad Steele,  
North America GM,  
Global Head of  
Partnerships,  
Thought Machine

The next two approaches are relatively even in choice, with greenfield tech stack at 23% and big bang at 22%. One benefit of a greenfield tech stack is that a separate core banking platform is created while the existing legacy core continues to run daily operations. The new core can be used exclusively for new customers or newly launched products where there is minimal disruption to an existing business. New features and capabilities can be tested and then deployed on the greenfield core. Eventually existing products and customers are migrated to the new core in a phased approach and the legacy system is shut down.

The big bang approach is somewhat similar to the greenfield approach in that a new core banking platform is built with one major difference – the migration speed of existing customers. In the greenfield approach, new customers and new businesses are typically placed first on the new core, followed by a gradual migration of existing customers. In the big bang approach, all customers and all businesses are migrated to the new core at once or in very rapid phases. While the greenfield approach allows a bank to immediately take advantage of the next-gen core, it does so on a small base of customers or products – typically new ones where the risk is lower. Fast migration in a big bang approach can raise enterprise risk if not correctly done, but has a much more immediate impact as it affects more customers rapidly.

Hollowing out the core, removing frequently used functionalities and rebuilding them as microservices is the least chosen approach at 11%. Many of today's legacy cores have swallowed up surrounding functionality (e.g., pricing, fraud/KYC, payments, customer master, etc.) over time, which is functionality that long-term should not sit within a core platform. Using a hollow-out-the-core approach, banks extract functionality in a phased manner such that the resultant functionality is delivered via a microservice-based, best-in-breed approach. At this point, the core is then modernized to a headless, cloud-native platform. Hollowing out the core is lower risk than a big bang; however, the timelines are typically extended, resulting in slower time to market.



## Conclusions

- A viable and sustainable digital transformation strategy must include cloud migration and core modernization. Without both, banks are only wasting their resources on superficial improvements that won't prepare them for the expectations of modern-day banking customers.
- While core modernization efforts can seem daunting, not embarking on this can only exacerbate the issues pulling banks behind as they face an increasingly competitive market saturated by both incumbent legacy banks and new, tech-savvy entrants.
- The core banking market is saturated with vendors with varying degrees of capability. As banks sift through their options, they need to pay attention to some key features, such as real-time data access and open architectural design, that will enable them to control their own product destiny without the constraint of a monolithic core system.

## Methodology

American Banker/Arizent Research surveyed 102 qualified bank and credit union respondents during July 2021 on behalf of Thought Machine. To qualify, respondents had to have a management role at a bank and at least have knowledge of their organization's digital transformation strategy. About 25% of banks have more than \$50 billion in assets, 35% have between \$10-\$49 billion in assets and the remaining 40% have assets of less than \$10 billion. This was a blind data collection effort. Thought Machine was not identified as a sponsor of the research.

American Banker, an Arizent publication, conducted this survey to understand how banks are approaching the modernization of their core banking systems, including the progress toward adopting next-gen core systems, their propensity to choose cloud-native core systems and the challenges to modernization.



## About Thought Machine

Thought Machine was founded in 2014 with a mission to enable banks to deploy modern systems and move away from the legacy IT platforms that plague the banking industry. We do this through our cloud-native core banking platform, Vault. This next-generation system has been written from scratch as an entirely cloud-native platform. It does not contain a single line of code that is legacy or pre-cloud.

Founded by entrepreneur Paul Taylor, Thought Machine's customers include Arvest, Atom bank, Curve, JPMorgan Chase, Lloyds Banking Group, Monese, SEB and Standard Chartered. We are currently a team of more than 500 people spread across offices in London, New York, Singapore, Sydney and Melbourne, and have raised more than \$150m in funding from Eurazeo, Draper Esprit, SEB, British Patient Capital, IQ Capital, Playfair Capital, Nyca Partners, Lloyds Banking Group and Backed.



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