



WHITE PAPER

CORE BANKING MODERNIZATION

Building a Successful Business Case

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With significant initial investments and potentially long payback periods before generating ROI, is it worth modernizing your core banking system?

**Blending Technology
+ Culture + Process =
Successful Business
Case for Core Banking
Modernization**

This is the first in a series of FIS white papers that examine how the interaction of technology, business processes, company culture, and people impact a bank's modernization business case.

Modernization plans too often are oversimplified with minimal qualitative and quantitative traceability to achievable business outcomes. This white paper outlines steps that help address such shortcomings to help banks build a sound and successful business case for core banking modernization.

Introduction

Core banking modernization refers to the replacement, upgrade, or outsourcing of a bank's existing core banking systems and information technology (IT) environment. These systems perform mission critical operations for the bank – processing accounts, loans, payments, and securities – and constitute the heart and backbone of the bank's IT infrastructure.

Computerized core banking systems were introduced in the 1970s and were mainly developed in-house and operated on mainframes. System capabilities and options have evolved ever since. For example, package-based solutions started to appear in the 1980s but were limited in their ability to handle large volumes. The 1990s saw new players enter this space with package offerings that were more open, flexible, and customer-centric. The core banking solutions developed in the last decade have focused on the convergence of digital channels, along with an increase in scalability and flexibility. Today's solutions focus on enhancing mobility for customers and internal bank staff, and on achieving real-time channel processing and multi-channel integration capabilities.

The promise of core banking modernization is to empower banks to harness the great advances in technology and design that are now available in order to benefit their business, and to delight their customers – both now and well into the future. What does this look like? The solutions of the future will be truly global real-time banking cores that can be easily deployed across multiple geographies and time zones. These core banking solutions will be highly scalable, adaptable, and more process-centric than ever before, and will be lean and fast to be cost effective and economical to deploy in the cloud (private, public, or hybrid) – these modern capabilities greatly enhance banks' agility in responding to competition and capitalize on opportunities, and more than satisfy the ever-changing customer experience expectations and demands.

Drivers and Objectives for Core Banking Modernization

The continuing introduction of new banking products, channels, and technologies increases complexities and necessitates the modernization of old legacy core banking systems. A combination of internal and external drivers is at play.

Internal Drivers

Financial institutions seek core banking modernization as an effective means to respond to internal business imperatives such as business bank growth and efficiency. Consider the following factors:

- **Product and channel growth**
With an ever-increasing number of products catering to different customer segments, compounded by an expanding number of channels, financial institutions face significantly increased complexity with multi-channel banking – with a trajectory that demands attention. Managing this situation requires scalable and sustainable modern core banking systems that can handle any volume of product-channel transactions and payments.
- **Legacy systems management**
Legacy technologies are fast becoming obsolete: Older technologies have known limitations, and there are fewer resources available with knowledge on the legacy technologies. Banks recognize “the clock is ticking” to adopt new technologies. The introduction of these new technologies provides banks with numerous benefits including real-time systems, flexible business process setup, and reduced platform costs through hosted and cloud-based solutions.
- **Cost reduction**
As banks look to improve internal IT efficiency in the current macroeconomic environment, they are turning to core banking systems modernization as an effective way to achieve internal cost savings. Modern core banking systems can consolidate several stand-alone applications and optimize costs associated with core applications and hardware processing; this can go a long way to help banks reduce the high maintenance costs that are associated with legacy IT systems.

External Drivers

Core banking modernization is also driven by the need to respond to external business imperatives, such as regulations, competition and customer experience expectations.

- **Regulatory compliance**
Banks need to enhance their IT systems and operations in order to comply with a growing array of new regulations. Examples include Basel III, Foreign Account Tax Compliance Act (FATCA) and the Dodd-Frank Act, all of which are aimed at enhancing risk management and governance procedures and improving transparency of banking operations in customer interactions.
- **Increasing competition**
Banks are facing increasing competitive pressure from new entrants such as online and direct banks running on new core banking platforms. This is forcing traditional banks running legacy core banking applications to decide in favor of migrating their core banking systems to new platforms, or standing up new direct banks alongside their legacy systems.
- **Customer centricity**
Traditionally banking has been product-centric but now products have become commoditized. Banking today is more customer-centric and there is a new focus on customer service, single view of the customer, and relationship-based pricing.

Evolution of Core Banking Systems by decade

1970s

- Core banking systems developed in the 1960s and 1970s provided basic functionality for processing core banking transactions

1980s

- Core banking systems of the 1980s were mainly product-centric and developed in silos

1990s

- Core banking systems became more open, flexible, and customer-centric
- Multi-channel processing and integration
- Adoption of Service-Oriented Architecture (SOA) and Application Service Providers (ASP)

Today

- Truly Global Solutions
- Open, Scalable, and Adaptable
- Customer Experience
- Process-centric
- Lean and Fast

2010s

- Mobile solutions
- Big data and analytics
- Improving customer-centricity, regulatory compliance, and risk management

2000s

- Real-time processing across channels
- Multi-channel platforms facilitating multi-channel convergence
- Cloud-based platforms

Figure 1. Evolution of Core Banking Systems



Modernization Objectives

Financial institutions seek core banking modernization as an effective means to respond to internal business imperatives such as business bank growth and efficiency. Consider the following factors:

- Customer**
 Improve customer experience, expand customer reach, fuel deposit growth.
- Business**
 Standardize and streamline end to-end business processes; improve and ensure compliance with new emerging regulations; expedite time-to-market for new products.
- Technology**
 Gain the benefits of technology advancements while also reducing the costs associated with the maintenance of legacy systems; improve core applications through service-oriented architecture (SOA) and enhanced interoperability; replace siloed and product-based legacy systems with an open banking framework that provides customer centricity.
- Operations**
 Improve operational efficiency via standardization of business processes, implementation of straight through-processing capabilities, and elimination of manual operations. The modernization also helps to facilitate the outsourcing of non-core operations.

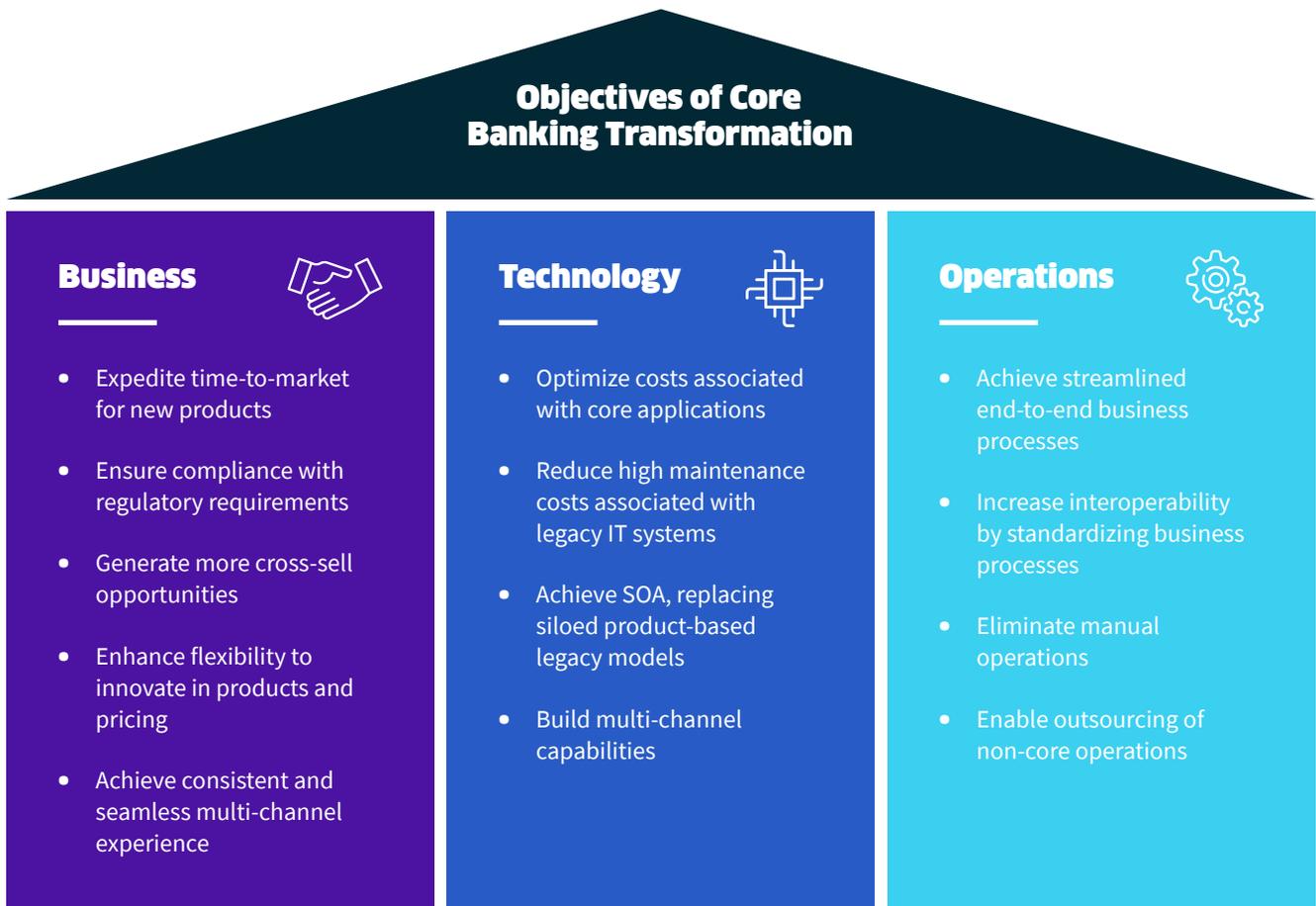


Figure 2. Objectives of Core Banking Modernization

Building a Business Case

A successful business case for core banking modernization includes both qualitative and quantitative analysis along with a long-term commitment from all key stakeholders.

A strong business case should be built before embarking on core banking modernization. The successful business case shows justification for the requisite investment of time and money needed for core banking modernization, based on qualitative and quantitative analyses. This process provides data and insights that empower the financial institution's decision makers to agree on the business objectives for modernization.

Building a business case starts with the setting of objectives and long-term business and strategic goals, and includes targets for market share, future product portfolio, target customer base, and reduction in operational costs.

- The **qualitative analysis** examines the implications of modernization in terms of non-financial benefits, such as increased brand perception, more satisfied customers, and greater competitive advantage.
- The **quantitative analysis** looks at the costs and benefits in financial terms that accrue to the firm post core banking modernization. This will be measured in terms of what will be the total modernization costs involved and how much cost savings will be achieved in existing operational costs over several years.

Core banking modernization will only happen when there is a positive business case and strong support from the internal stakeholders on the necessity for modernization. The decision makers will need to critically determine whether investing into new systems is warranted based on an overall assessment of the benefits vs. the costs involved, along with evaluating the possible modernization risks to ongoing business and existing systems, as well as the risks and costs of trying to maintain the status quo. Building a strong business case is essential to the ultimate determination and outcome.

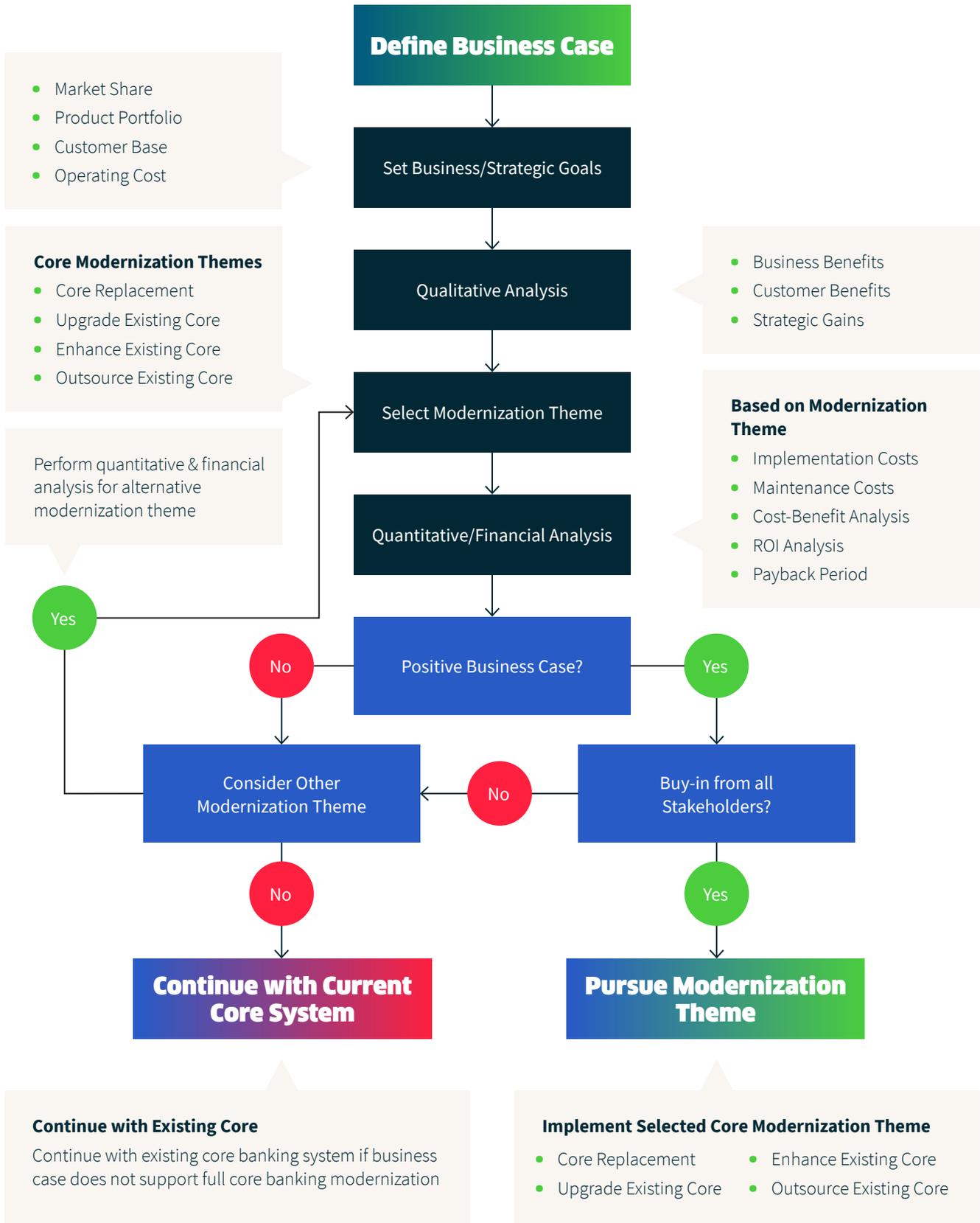


Figure 3. Business Case Framework for Core Modernization

Cost Analysis Based on Modernization Strategy/Theme

Core banking modernizations are costly; the expenses include various upfront charges for hardware, software, and vendor services, as well as recurring or maintenance charges. Services from the core system vendor, such as implementation and configuration/customization costs, can often exceed the initial license fee. Over the life of a core banking system, the initial license fee comes to less than half of the total cost of ownership (TCO) while maintenance costs or recurring license fees come to an average of about 15-22%.¹

In today's market most banks pursue a more budget-friendly model for modernization, opting for subscription-based license fees (i.e., a tiered annual cost per customer or account) plus the ongoing operating cost for cloud hosting. This model provides a softer cost of entry and progressive costs as the bank's revenue grows. This model also eliminates recurring annual maintenance costs. IT costs will vary based on an external hosting model versus on bank premise hosting model. The equipment and operational personnel to support the external cloud hosting model reduces IT operational costs with production environments and other Dev and Test environments needed to support agile teams.



Figure 4. Core Modernization Cost Considerations

Modernizing core banking systems requires corresponding changes to supporting systems, interfaces, hardware, and network. Furthermore, there are training and change management costs associated with re-skilling and redeployment of people on new systems.

¹ Data collected from 29 banks belonging to Tier 1 (>USD\$500mn), Tier 2 (USD\$100-500mn), Tier 3 (USD\$5-100mn), and Tier 4 (<USD\$5mn) category, with a majority of banks belonging to Tier 3 and Tier 4 category.

CORE BANKING MODERNIZATION

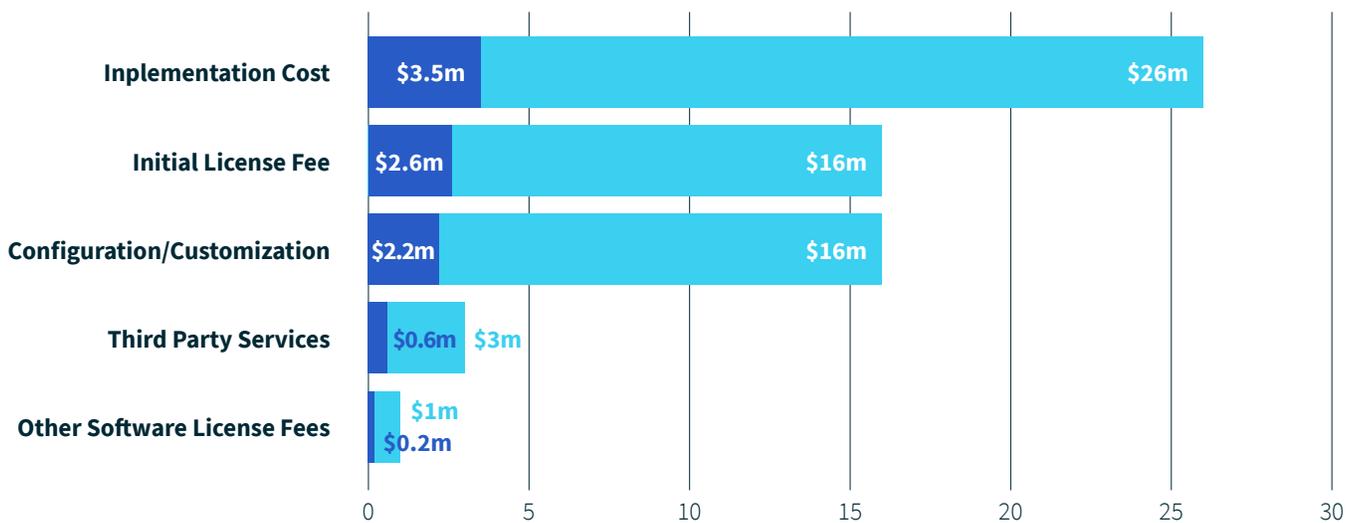


Figure 5. Modernization Industry Average Cost and Types

● Representative Industry Average ● Maximum costs by type

The TCO for core banking modernization becomes quite significant when measured over a period of time. Likewise, the total cost of core banking modernization, rather than just the initial license fee, becomes important when choosing a particular modernization strategy/theme.

Figure 5 indicates the average and maximum range for the different upfront and recurring costs associated core banking modernization. The reason for the variance is based on the different modernization themes and business strategy / business outcomes.

Benefit Analysis

The business case for core banking modernization should not be based solely on the financial analysis; it also needs to examine the qualitative non-financial benefits of modernization. Examples include increased operational efficiency, improved sales and service capabilities, and enhanced regulatory and risk management. As with financials, these anticipated benefits should be forecasted over time. Figure 6 illustrates a sample scenario.

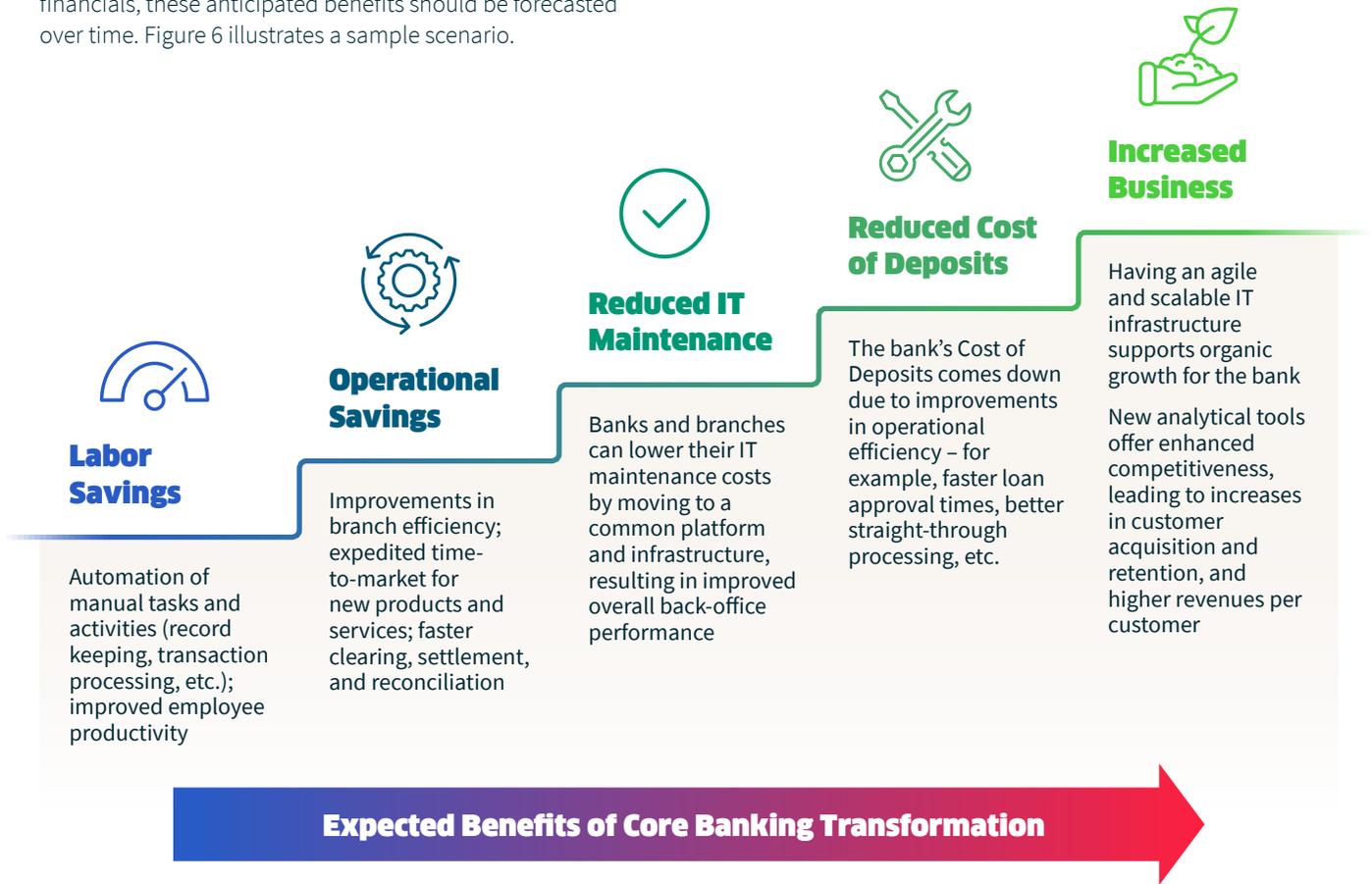


Figure 6. Incremental Benefits of Modernization

As shown in Figure 6, core banking modernization produces multi-faceted cost savings through labor savings, operational savings, reduced IT maintenance, and reduction in the cost of deposits.

Business gains come from higher revenues through increased sales per customer, and growth in customer acquisition and retention. Labor savings result due to reduced manpower requirements and improved employee productivity.

Operational savings come from front-to-back office integration, which enables straight-through-processing and consolidation of customer information.

Due to the replacement of legacy systems with a new technology platform, the overall IT maintenance costs come down. Core banking modernization improves competitiveness due to faster rollout of products, product innovation, and product differentiation. This also leads to benefits such as increases in market share and enhanced competitiveness due to reduced cost of deposits.

Payback Period

The payback period for core banking modernization will depend on the modernization strategy/theme and the scale of modernization. Figure 7 shows the typical range of the payback period for core replacement, based on the type of targeted modernization theme which can include:

- **Core Replacement**
- **Upgrade Existing Core**
- **Enhance with Business Components**
- **Outsource Core Hosting**

Given the high TCO, the payback period for core banking modernization will be a matter of years. Initially, investments are higher due to implementation effort, standing up infrastructure, data migration, initial license or subscription fees and software / bank product configuration / customization and other system integration costs. The benefits of modernization start to trickle in post-implementation based on the business strategy for growth. New customer revenue, business process rationalization and other cost efficiencies will determine the point at which the new growth is funding the modernization even though during post-implementation there are ongoing associated subscription costs and potential upgrades.

Payback Period for Core Banking Modernization

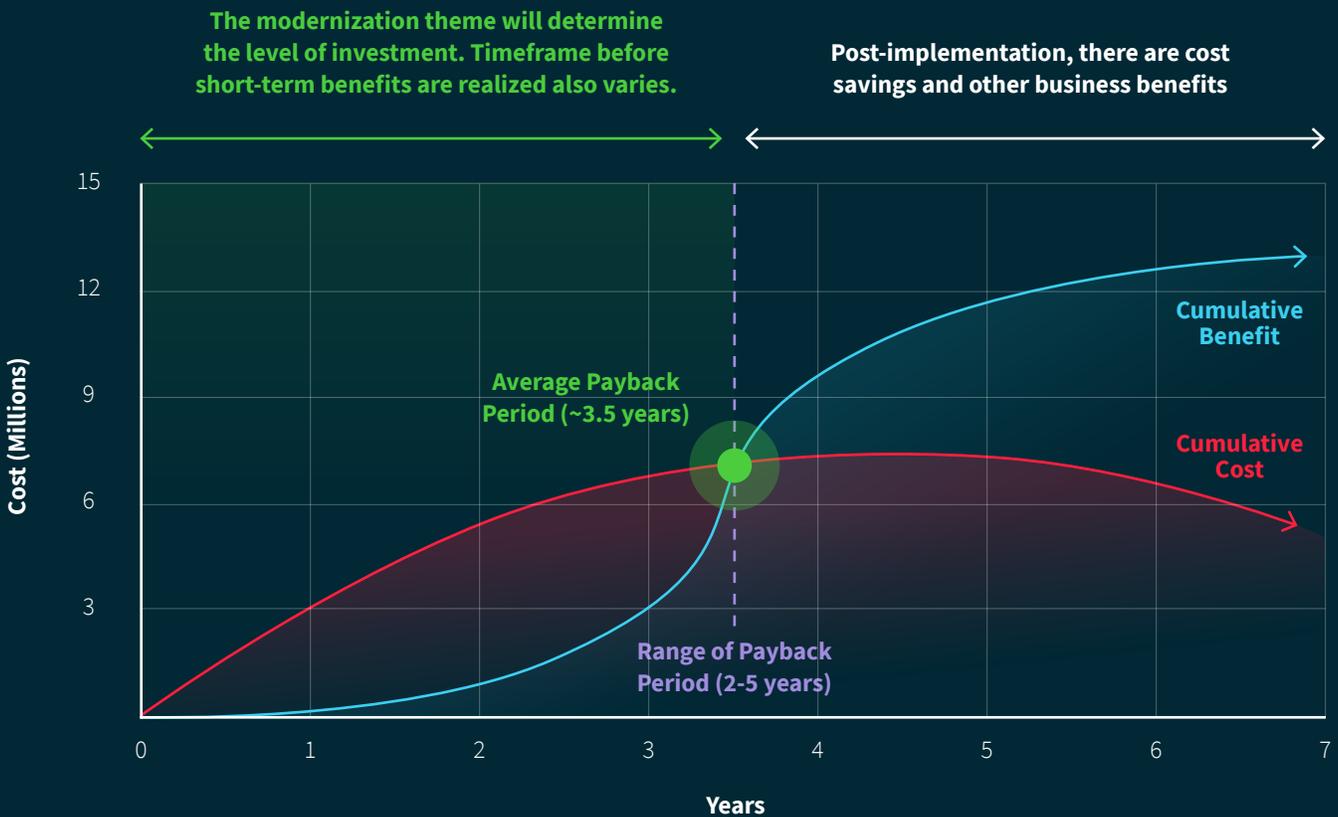


Figure 7. Payback Period for Core Modernization

The Modernization Plan

Choosing the Right Approach

In summary, the right modernization approach will depend on the size of the bank and the complexity of its existing IT systems. If the business case is not strong based on the analyses for a selected modernization theme, then it makes both financial and strategic sense for the bank to consider other modernization theme approaches or decide to continue with its existing system. When the business case is strong, then the targeted modernization approach is demonstrably warranted – be it a complete replacement, component enhancements, outsourcing, or an upgrade.

Replacement of the core banking system can be done either in-house or by installing a core banking package solution from a vendor. Upgrading an existing core banking system is done either via installing a new release of the existing package or by enhancing the existing functionality of the system. Outsourcing is done by transferring the core systems to a third-party vendor and running the system over a hosted platform (ASP) or in the cloud, as depicted in Figure 8.



Figure 8. Core Banking Modernization Themes

In a subsequent white paper, we will further examine the qualitative and quantitative analysis steps related to targeted banking modernization. We'll explore the areas of Bank benefits, Customer benefits, and the Tech cost efficiencies

that can be released based on the different modernization themes, helping to determine where a bank can expect earlier revenue returns to offset the implementation costs of banking modernization.



\$9t

Moved annually
around the globe

1.3b

Cards served
worldwide

75b

Transactions processed
around the globe

20k

Clients

450

Solutions

+55k

Colleagues in
52 countries

198

Operational facilities
worldwide

1m+

Merchant
locations

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