Options for Change:
migrating to modern card payment systems

tietoevry

Developers of Digital Futures

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Introduction

The imperative for change

Over the last year, the impetus for changing card IT platforms has shifted from a strategic possibility to a necessity for banks. The legacy systems banks have been operating for more than twenty years on a "patch and mend" basis are too expensive and risky to maintain. According to the UK's Financial Times, banks now spend up to 75% of their IT budget[1] on maintaining legacy systems, leaving little to no scope for innovation.

> "The legacy systems banks have patched for decades are now too risky and expensive to maintain."

While this situation is in itself unsustainable, it's made worse by two compounding factors, the first of which is growing cyber-security risk and, by extension, increased regulatory demands to manage that risk. SQN Banking Systems report[2] that the cost of protecting banking systems is rising by 14% on average every year, with smaller and medium banks spending disproportionately more as a proportion of revenue on managing cyber-risks compared with large financial institutions. Another big challenge is the incompatibility of legacy payments infrastructures with modern, digital technologies such as payments by digital wallet, Open API integrations, 24/7 operations migrating from batch to online application and transaction processing and more.

> "Rising costs aside, poor functionality and the challenge of maintaining the security of legacy systems is becoming unsustainable."

Migration strategies: big bangs, stepwise changes and more

Our new report, "Options for Change", examines not just where banks stand in their migration to new card platforms, but also looks at the different approaches banks should take to get there. In Part One of this study (page 7), we review the findings of our survey and discuss what they reveal about banks' current migration approaches. Part Two (page 12) sets out the different migration strategies banks can adopt, from running new systems in parallel with the old through to the "Big Bang" approach and stepwise migrations.

A note on methodology

This year's study is broader in scope, surveying the views of 81 banks with operations primarily in the EU (51.43%), the Nordic markets (11.43%) and the UK (10%), around 30 more institutions than were included in last year's study. Four in five of the banks responding to this survey have turnover lower than 30 billion Euros, representing a segment that frequently has to make difficult choices when it comes to IT infrastructure given the lower budgets at their disposal compared to major international players. Around two-thirds of respondents to the survey were senior decision-makers, either from the C-Suite or Heads of IT or Payments functions.

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[1] See The Financial Times, "Banks' ageing IT systems start to buckle under strain." https://www.ft.com/content/90360dbe-15cb-11e5-a58d-00144feabdc0#axzz3tFTKBd00

[2] See SQN Banking Systems, "What Can a Cyber Security Breach Cost?" https://sqnbankingsystems.com/blog/what-can-a-cyber-security-breach-cost/

Executive Summary

Card systems migration is a hot topic for European banks, and is at or near the top of their agendas. 61% of banks in Europe are looking to replace their existing card systems.

More than half (52%) of the card systems currently in use are between 10 and 20 years old. Such systems cannot now be adapted to the needs of a modern digital economy, such as Banking-as-a-Service or transactions via digital marketplaces. This is a key factor driving the current interest in migration.

In continuing to use legacy systems, banks said their main problems are outdated IT architectures (48.9%), the cost of maintaining these systems (44.9%) and their complexity (38.8%). At the same time, almost a third (30.6%) of banks face a skills shortage when looking to maintain these systems. Almost 80% of the banks we surveyed employ the same or more people in their card systems department compared to five years ago.

Many banks are aware of the complexities that migrations can bring, from operational interruptions (48.4%), internal factors (48.4%), lack of internal capacity (54.8%) and project over-runs (61.3%). However, experience suggests that banks are still unprepared for the range of internal complexities they face – and may not even be aware of what those complexities are.

While the vast majority (96%) of banks are considering hosting future card systems in the cloud, fewer than one-third are actually engaged in that process. This underlines the importance of Software as a Service (SaaS) as a migration strategy given its flexibility and adaptability to future change – such as when a bank decides to move to cloud hosting for its card systems.

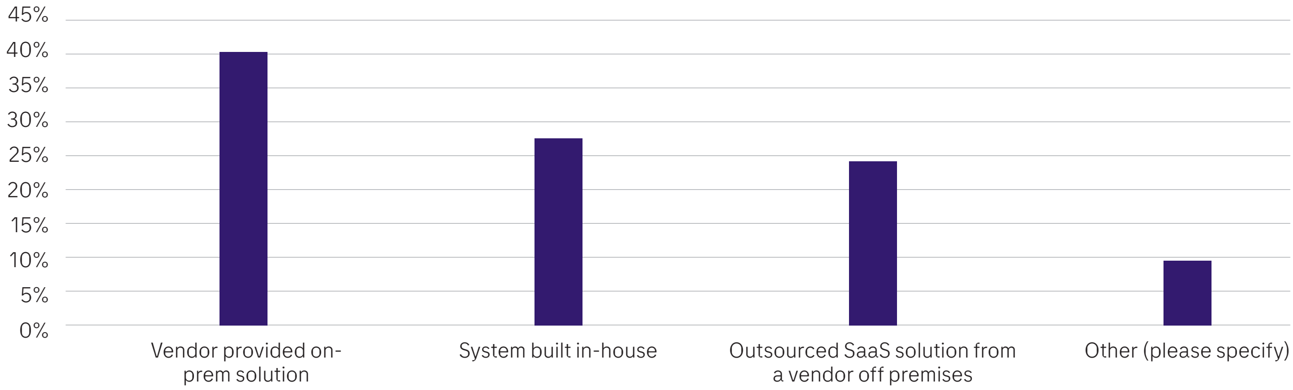
Given the complexity of migration projects, banks should be working with experienced partners who understand the numerous road-blocks and pitfalls that can impede successful migration strategies – and who know how to overcome these obstacles.

One key issue for banks is aligning IT needs with those of the business. Banks should allocate significant resources to defining the scope of their migration internally and to ensuring that they are able to unify their interfaces while replicating existing functionality. The challenge is to maintain existing interfaces while introducing scope for future growth and new capabilities.

Part One

The factors that limit legacy systems

Most banks work with in-house solutions or vendor software on-premises.



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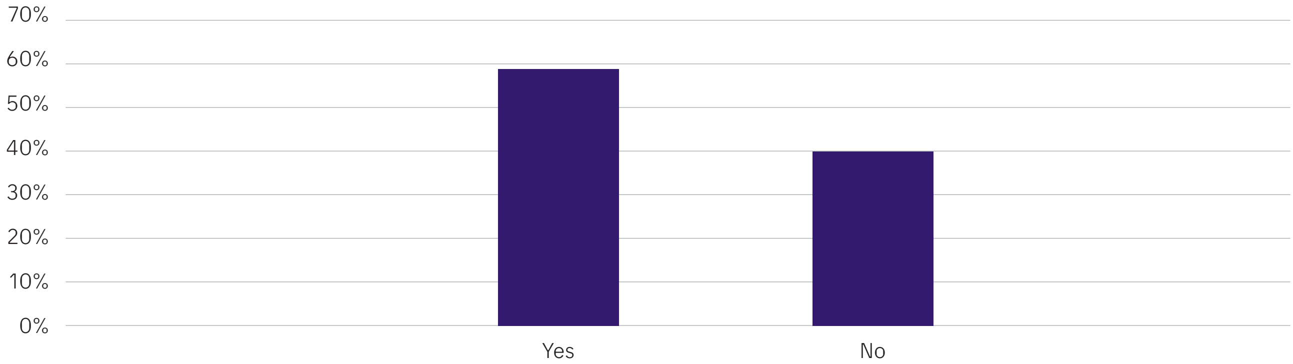
Six in ten banks operate multiple card platforms.



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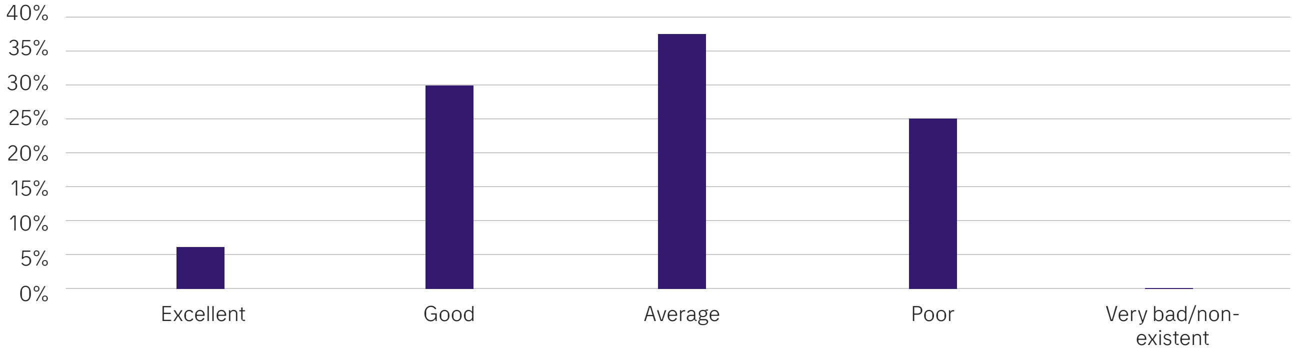
Banks across the Western world are currently using a blend of different solutions acquired over time which they are attempting to patch up and synch with each other, often unsuccessfully. There are a number of reasons behind this – perhaps because the bank has acquired other entities over time, or selected different platform providers for credit, debit and prepaid programs. Other reasons could be banks adopting a component-based approach to software purchases, looking at what works best in a particular situation, rather than thinking about the needs of their entire platform, or separating the needs of their front and back office systems.

> "Current bank approaches to software purchasing make both the integration and management of card systems a challenge."

Almost two-thirds of banks are unhappy with the interoperability of their current systems.



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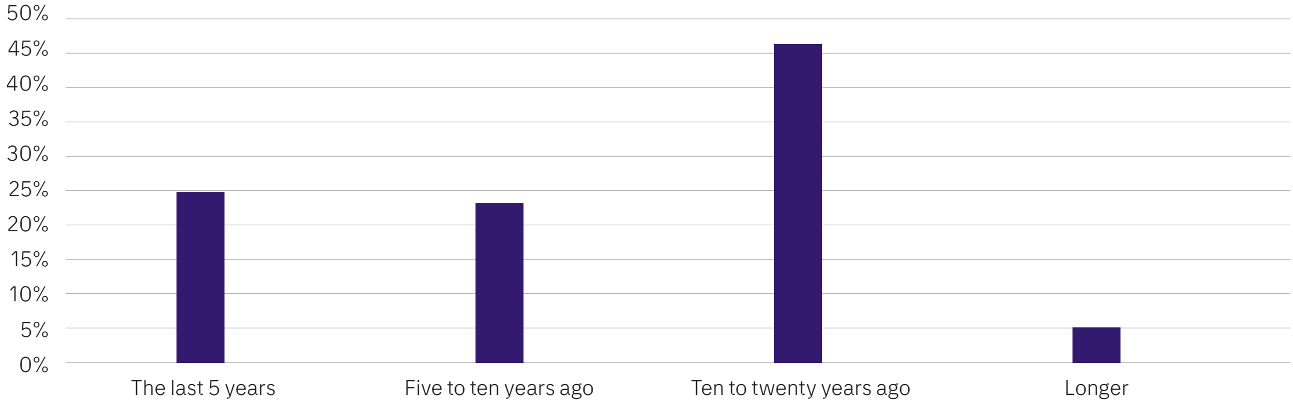
75% of bank systems at least 5 years old. Over half more than a decade old.



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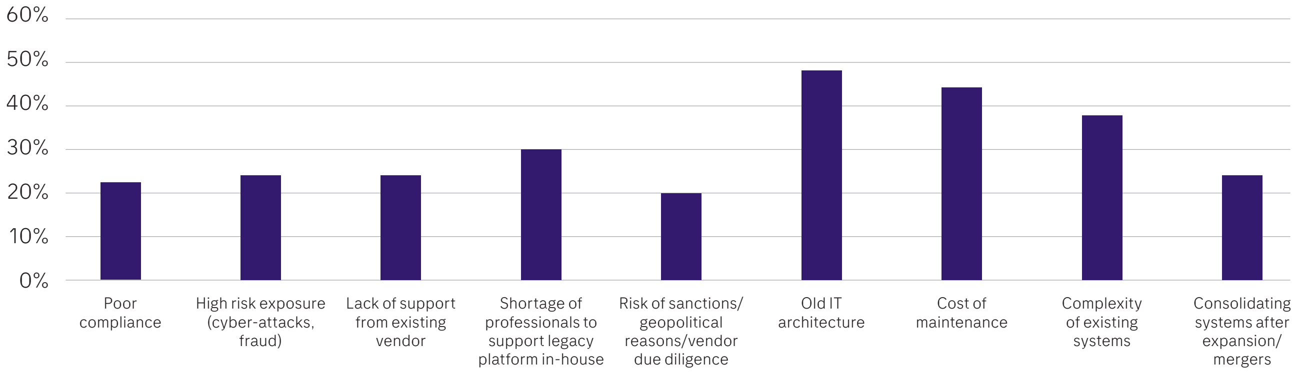
The truth is that existing bank systems are old and increasingly difficult to manage, placing a burden on banks through their complexity and expense. At the same time, compliance demands are increasing especially when it comes to managing systemic risk in the EU's Digital Operations Resilience Act (DORA), due for implementation in early 2025.

In some cases, the new requirements of certifying systems for standards such as PCI DSS 4.0 will make it impossible for some older systems to operate, running the risk of incurring penalties or, in the worst case scenario, the revocation of licenses. Meanwhile both corporate and retail banking customers expect faster, safer and more innovative services, placing further pressure on IT budgets, product managers, compliance teams and more.

> “Cloud technologies have expanded migration options for banks, enabling dramatic cost reductions, more flexible and responsive systems and better future capacity.”

The good news is that cloud technologies have opened up the range of migration options available to banks. By making the choice to migrate to new software architectures now, banks can dramatically reduce the cost of managing their systems, while making those systems more flexible and responsive – as well as being more able to cope with growing regulatory demands and rising customer expectations.

Expensive, old and complex: it's time to switch systems.



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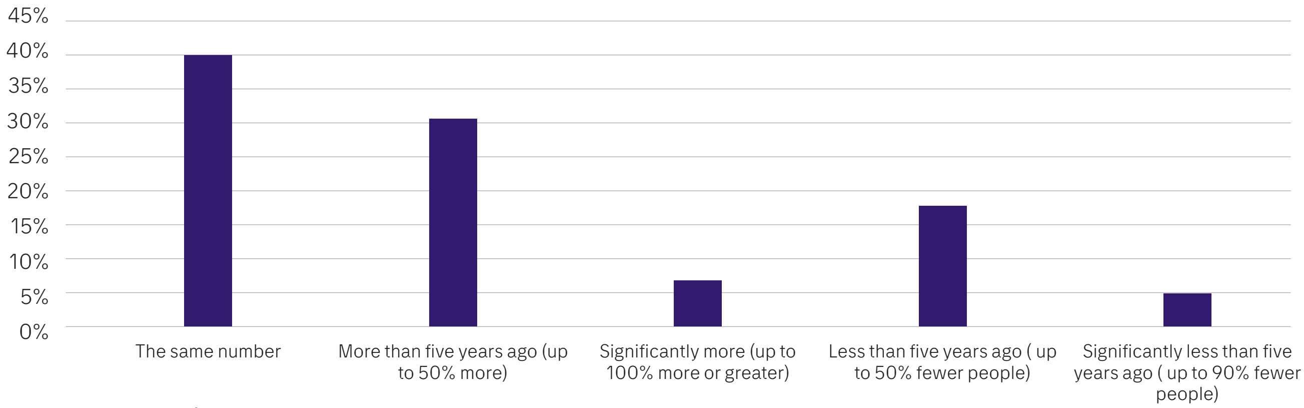
Banks spend more on staff as systems get harder to maintain.



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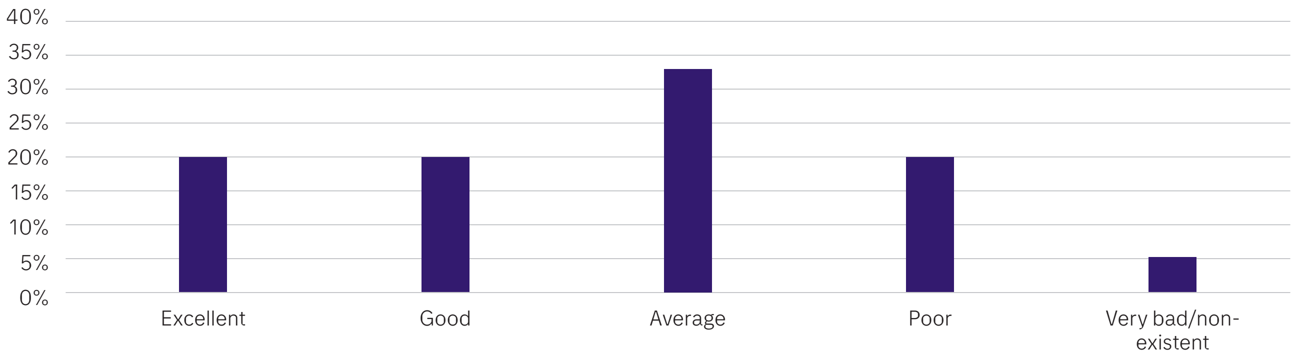
Responses to our survey provide a graphic demonstration of the challenge banks are facing. For Europe's banks, the key problems faced are outdated IT architectures (48.9%), the cost of maintaining these systems (44.9%) and their complexity (38.8%). At the same time, almost a third (30.6%) of banks face a skills shortage when looking to maintain these systems. As we can see, almost 80% of the banks surveyed are employing the same or more people in their card systems department than five years ago at a time when automation should be reducing headcount and making routine tasks easier.

> "At a time when automation should be reducing the need for more hires and making routine tasks easier, banks keep hiring to maintain old systems and manage compliance."

Two-thirds of banks aren't sure their systems can handle wallets or 3DS.



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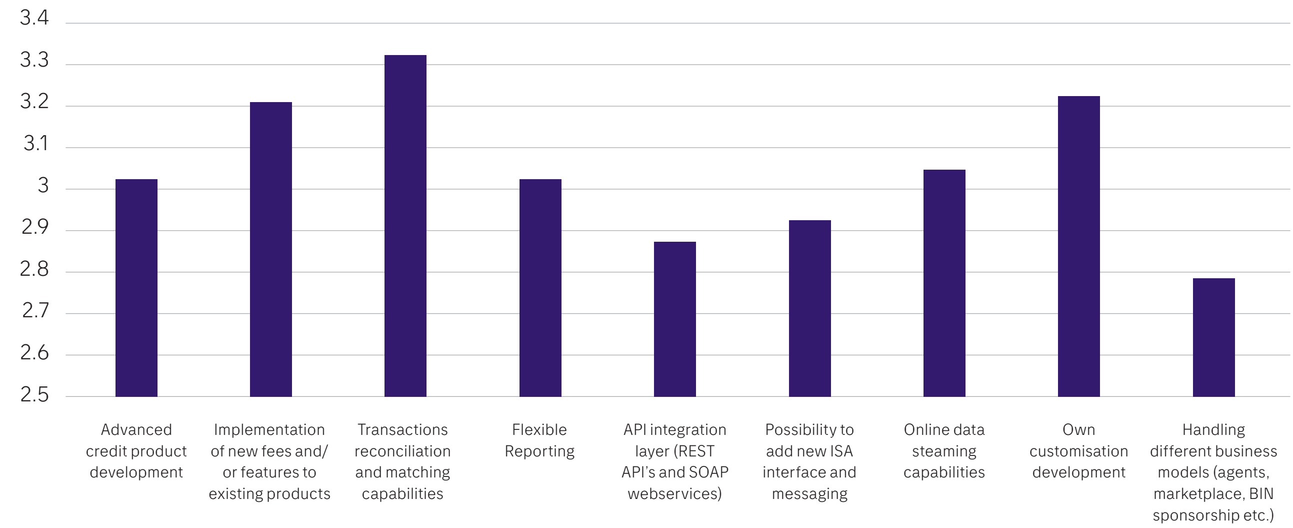
Banks doubt their system's ability to handle Open APIs and new business models.



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Existing systems may be able to manage standard features, but as soon as banks need to introduce new business models such as BIN sponsorship or API product marketplaces, legacy systems struggle. While it's possible to introduce overlays and additions to existing systems, this can be quite a complex approach. Other options include building a new system alongside the existing system either in the cloud or on-premises.

Whichever option is chosen, these responses to our survey make it clear that the outdated systems used by a majority of banks today are no longer fit for purpose and cannot be adopted to modern requirements such as online marketplaces or Banking as a Service (BaaS) technologies. In Part Two of this report, we examine the options currently being explored by banks, the merits of each approach, and other factors to consider in the migration process.


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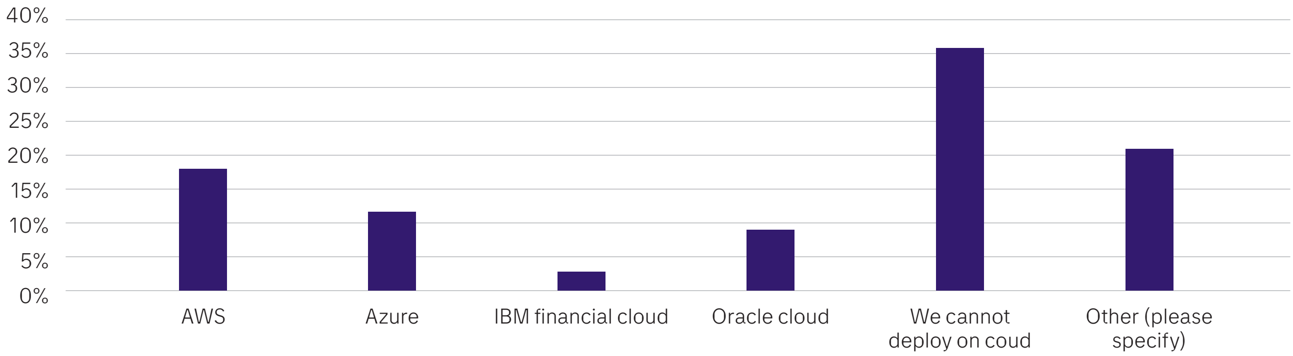
Part Two

Options for change: how to make migration happen

Cloud deployment – present and future plans

Banks not currently considering cloud deployments...



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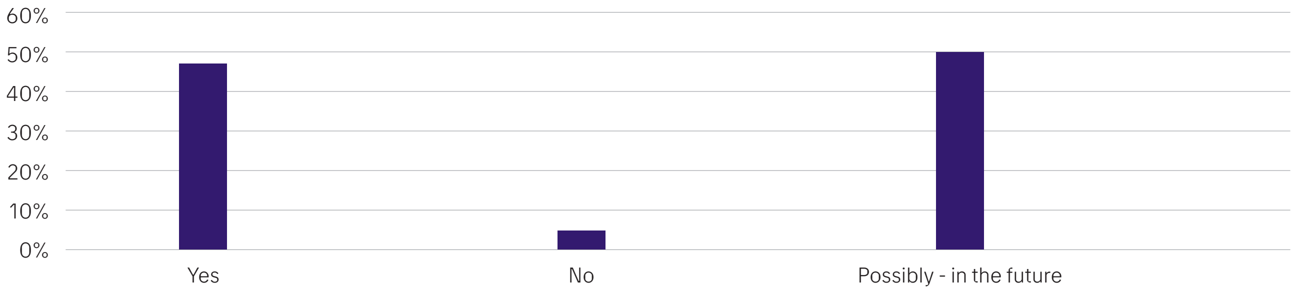
.. yet most see the cloud as the future of card systems.



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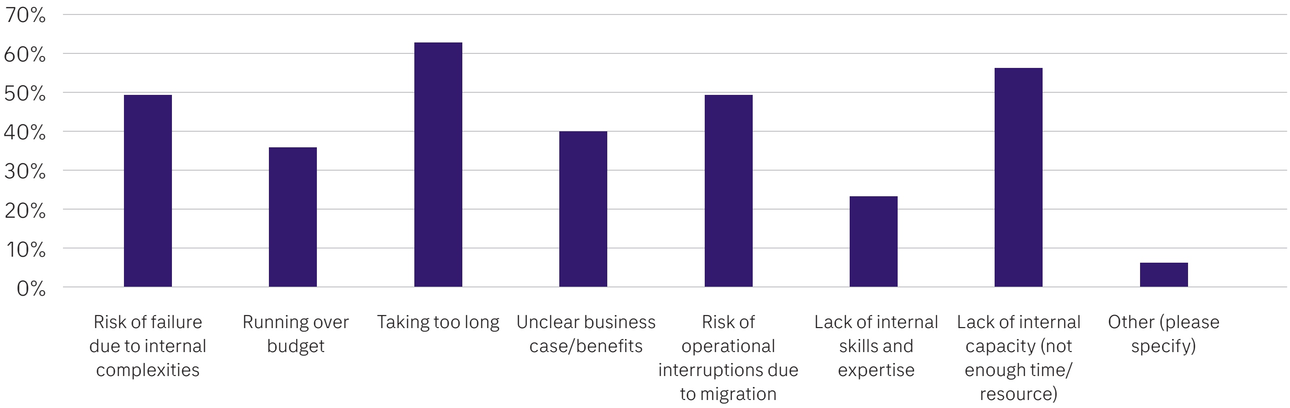
As we found in last year's study, less than half of the banks surveyed responded to a question about their current cloud deployments, and more than a third of those responding said they could not currently deploy their systems on either a public or private cloud. Looking ahead, however, it's clear banks recognise the importance of the cloud to future payment systems: more than 96% of those surveyed said they would consider cloud deployments in the future. By taking an SaaS approach to card platform migration, banks are giving themselves the flexibility to choose which cloud option – or combination of options – they will use in the future.

> “By taking an SaaS approach to migrating their card platforms, banks give themselves room to choose the right cloud strategy in the future.”

Banks have concerns about migration ...

Long project times, the risk of failure and system downtime worry banks.



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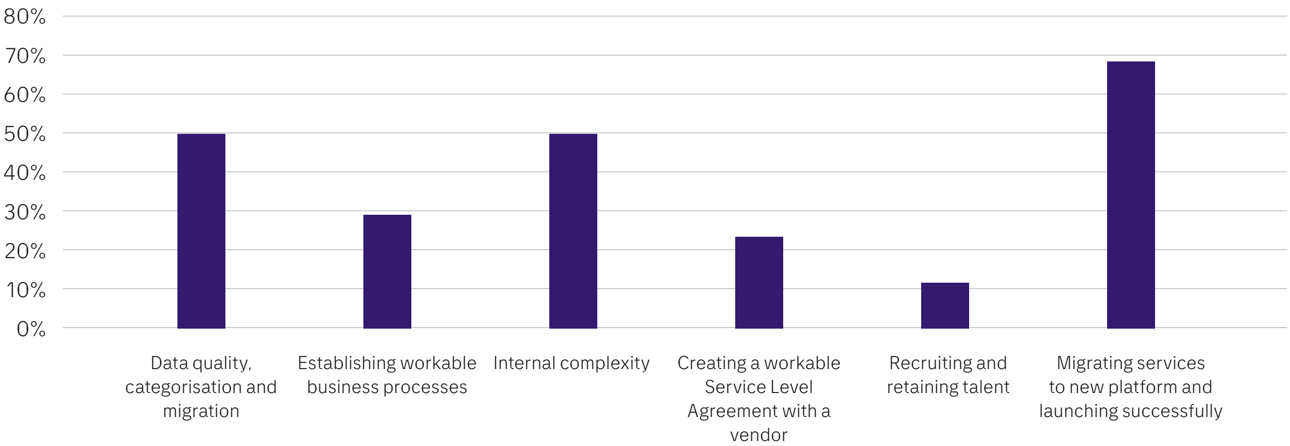
Migrating services and data, managing internal processes seen as risky.



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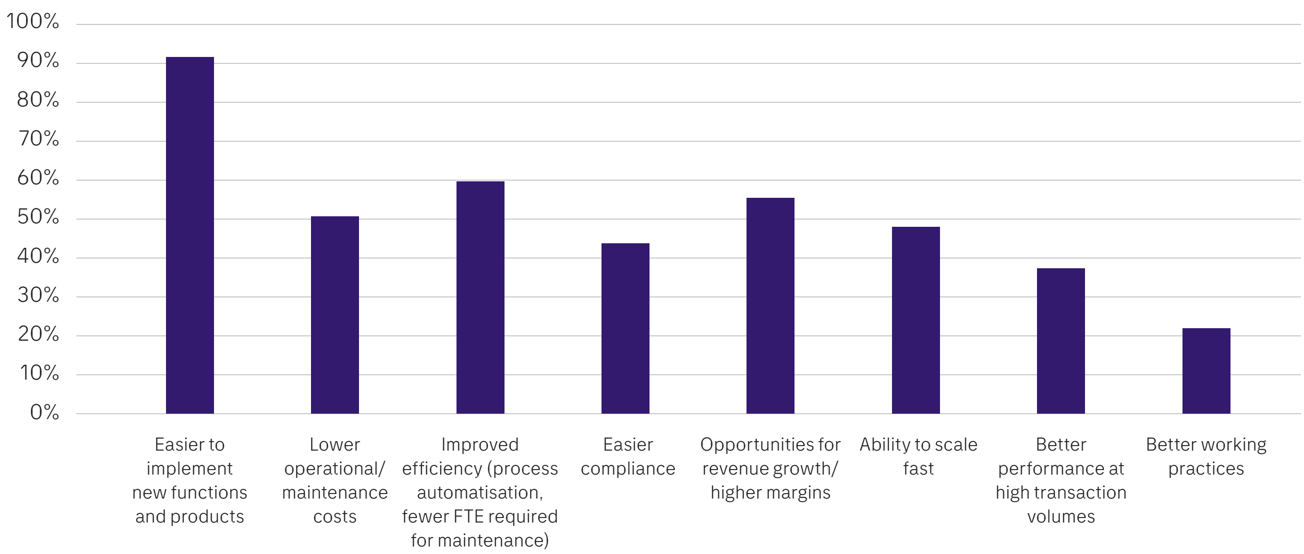
While banks now face an imperative to migrate their systems, there’s no denying that some migration processes can be complex and time-consuming. If there’s a temptation to do nothing until it’s absolutely necessary, then – for most banks – the time has now come to act. Banks are concerned about the length of time any migration will take (61.3%), a lack of internal resources required to manage such projects (54.8%), and risks of failure due to internal complexity or operational downtime (48.4%).

> If banks are concerned about the risks of migration, then it's clear they see the benefits outweigh the risks – and recognise the need to act now."

Banks see a successful, smooth launch of new systems as the biggest challenge in migration (67.9%), followed by managing data and data quality, alongside managing internal complexities (50%). Our experience confirms these findings – and suggests that banks' concerns about managing internal complexity may be understated. One key issue for banks is aligning IT needs with those of the business. Customers should allocate significant resources to defining the scope of their migration internally, and to ensuring that they are able to unify their interfaces while replicating existing functionality. The dilemma, then, is to maintain existing interfaces while introducing scope for future growth and new capabilities.

… but feel the benefits outweigh the risks

Greater flexibility, improved efficiency and lower costs are driving migrations.



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More than nine in ten (92.6%) of the banks we surveyed told us their migration plans were driven by the ease they would experience in implementing new functions and products, followed by their expectations of improved efficiencies such as more automation and a requirement for fewer staff (59.3%). They also expected to see lower ongoing operational and maintenance costs, among other benefits (51.8%).

These results show that the benefits outweigh the risks when it comes to migrating card systems – and that now is the time to act. The answer to banks' concerns about the migration process is to work with a partner with deep experience in the migration process, from the different methodologies that can be employed through to specialist tools to handle complex tasks such as data cleansing and migration.

Migration options

Most popular migration methodologies.

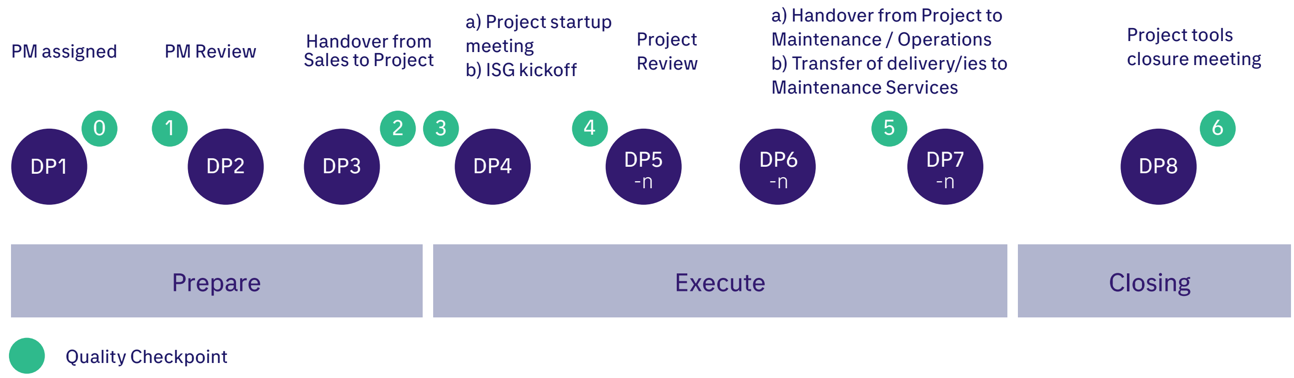
Big Bang	Step by Step	Parallel Run	Green Field
Switch-off legacy/ switch-on new platform at the same time	**Stepwise migration** Product by Product Channel by Channel etc	Run legacy and new platform in parallel for some time Validate results Switch to new platform after probation period	New implementation from scratch

The above graphic shows the four most popular migration methodologies employed by banks. As an experienced migration partner, we have delivered projects using all of these methods. Whichever method is chosen, it's important that a bank should:

- Clearly define and agree their objectives, their future vision for their card systems, goals, responsibilities and success measures, as well as the requirements of their business;
- Achieve understanding and buy-in from senior management both inside business units and the technology function;
- Be flexible and willing to review and change working procedures;
- Work with their migration partner or supplier for success, backing up the availability of their resources with the right knowledge;
- Set realistic implementation timetables in partnership with their vendor.

At Tietoevry, we have developed a unique methodology to help our customers select the right migration strategy for their needs based on initial meetings. Our goal is to deliver a workable project plan to our customers as quickly as possible. By adopting an SaaS approach, it's possible to introduce new functionalities and minimum viable products (MVPs) rapidly. In this way, legacy platforms can be replaced step-by-step, rather than all at once. As an example, one Tietoevry customer implemented a stand-alone commercial card via SaaS as an MVP before fully migrating their entire card issuing operation to a modern platform.

A proven migration planning approach



Tietoevry's approach to migration planning has been proven to work, as the case studies below demonstrate. Across the migration process, we introduce a number of Decision Points (marked as "DP" above) at which the project can be altered, developed or halted if necessary. This phased approach helps with clarity and cost control, as well as providing focus and ensuring flexibility – if requirements change, the scope and deliverables can change at any of these points.

Migration in action

Our deep experience of card migration projects allows us to work according to our customer's needs, using our project planning methodology as outlined above. Successful recent projects have included the following:

Case One: Platform modernisation for a large European multi-national bank

This commercial and investment bank had been a Tietoevry customer since 2018. The bank had retail and private banking customers across 12 European countries, with a branch network of more than 100 outlets. The bank handles between 4 and 7.5 million transactions per day, and is extremely risk-averse.

Beginning in April 2018, Tietoevry delivered a pilot card acquiring solution by April 2020, and full implementation of a functioning card acquiring solution by September 2022, with full go-live for a new card issuing platform planned from 2024. By selecting a phased approach to migration, this bank was able to reduce the number of bugs experienced after the full "go live" date, reduce the overall risk of failure in the migration process, and make better use of their available resources.

Case Two: A "Big Bang" for an international bank issuing credit cards

This international bank offers a wide range of banking solutions for individuals and businesses. With 450,000 cards under management, it supports both Visa and Mastercard branded credit cards. This migration included a M&A acquired cards portfolio acquired during a merger. The challenges of this migration included the migration of open billing cycles. Having worked with the customer to determine a clear migration plan including new configurations and parameters for their card portfolio plus the production of a backup database, we were able to complete the migration of this card portfolio to a new management platform within the planned period and with minimum downtime. Thoroughly planned pre-migration activities contributed to a smooth migration experience and a successful project.

Some final thoughts from Tietoevry's experts

Valdis Janovs, Head of Instant, Retail Payments and Cards:

Many existing bank card systems are simply not ready for the digital world and its associated challenges. Banks yet to realise this soon will do – as a result, all banks should now be preparing for the realities of a world focused on digital payments in which current levels of complexity will only increase. In our experience, banks that fail to prepare end up making forced decisions to migrate to more modern systems and processes. A few years ago, one bank decided to continue developing card acquiring systems internally until they were faced with compliance requirements that placed unmanageable burdens on their development process. Planning for migration means more than releasing a "request for proposals": senior executives need to challenge themselves to articulate a comprehensive five-year strategic plan.

"Planning for migration means more than releasing a "request for proposals": senior executives need to challenge themselves to articulate a comprehensive five-year strategic plan."

We find there is often significant dissonance between bank management and IT managmeent. While IT management will look to vendors to help manage internal process re-evaluation,there can be a reluctance to actually change the business processes that go along with the changes in systems and software platforms. As payments and business go digital, such process changes will be required: banks that do the strategic work today and have the foresight to take action now will be the ones that will thrive and win tomorrow.

Toms A. Jansons, Senior Strategic Product Manager:

The internal complexities associated with any migration project are usually under-rated by the migrating bank. It's possible that many banks are not even aware of where these complexities lie when they begin the migration process. For instance, one bank requested more than 50 new card interfaces because they were unable to alter the complexity of their internal systems, while another needed three years to identify and manage internal pain points in their systems. The implication of situations like these is that banks need to revise their product strategies and internal processes to fit their future, and not their past.

"Banks should work with experienced partners who understand the pitfalls to successful migration, and who know how to overcome these obstacles."

In that context, synchronising and integrating effective, modern API layers that are flexible is an important task in any migration project, since these API layers allow for future adaptation and change. This is in direct contrast to the complexity and inflexibility of outdated system architectures. Given the complexity of migration projects, banks should be working with experienced partners who understand the numerous road-blocks and pitfalls that can impede successful migration strategies – and who know how to overcome these obstacles.

[PLEASE ADD QR-CODE LINKS TO THE TIETOEVRY ISSUING WEB PAGE, THE TIETOEVRY ACQUIRING WEB PAGE AND THE 2022 MIGRATION STUDY] - PLEASE SUPPLY THE LINKS

About this survey:

In May and June 2022, Payments Cards and Mobile (www.paymentscardsandmobile.com) surveyed more than 65 senior leaders from European banks, over half of whom hold C-suite positions or have primary responsibility for payments in their institution. The banks in this survey came from all tiers of capitalisation, with concentrations in the large international (more than €30 billion capitalisation) and smaller national (less than €1 billion capitalisation) segments. 43% of respondents came from the UK or Western Europe, 25% from the Nordics and Central and Eastern Europe, with the balance coming from the EEA and other territories. Almost three-quarters of respondents (72%) came from banks whose primary interest lies in issuing payment products.

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About Tietoevry Banking:

Tietoevry creates purposeful technology that reinvents the world for good. We are a leading technology company with a strong Nordic heritage and global capabilities. Based on our core values of openness, trust and diversity, we work with our customers to develop digital futures where businesses, societies, and humanity thrive.

Our 24 000 experts globally specialize in cloud, data, and software, serving thousands of enterprise and public-sector customers in more than 90 countries. Tietoevry's annual turnover is approximately EUR 3 billion and the company's shares are listed on the NASDAQ exchange in Helsinki and Stockholm, as well as the Oslo Børs.
www.tietoevry.com

About Payments Cards and Mobile (PCM):

Payments Cards & Mobile cuts through the noise to create stories that make headlines. We deliver valuable research and practical debate on the industry topics that matter most. PCM's high calibre writers and researchers have years of hands-on experience across the payments, banking, FinTech and retail industries. This skilled team provides the perfect combination of expert journalism and industry analysis, getting to the heart of issues that will shape the future of payments. Leveraging 15 years of data across 43 markets, our resources, expertise and approach make us the go-to market intelligence hub for senior payments professionals across the global payments ecosystem.
www.paymentscardsandmobile.com

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