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Backing up the Digital Front:
Digitizing the Banking Back Office

Banks Cannot Hold Back Any Further on Digitizing the Back Office

Most Banks Have Been Focusing on Customer Experience

Digital technologies and the banking industry are no strangers. Our research with the MIT Center for Digital Business showed that over 94% of executives see digital transformation as an opportunity[1]. And indeed, most banks are investing in digital transformation in a big way. For instance, in 2011, banks globally set aside nearly $13bn for investments in digital channels with a third of their total digital budget dedicated to mobile banking[2]. However, most banks have been focusing on transforming the customer experience using digital technologies. In doing so, they are missing a potentially bigger opportunity that they have, right in their backyard – the digitization of their operations.

While banks have been focused on retail channels, their core systems have continued to run on legacy architecture that is typically expensive to maintain. Globally, many banks continue to rely on core legacy IT systems originally implemented in the 1970s and 1980s. Estimates indicate that 90% of the technology budgets of North American and European financial institutions are spent on managing and maintaining legacy systems. Such legacy systems also impede the ability to have a unified view of data across silos and isolated software stacks[3].

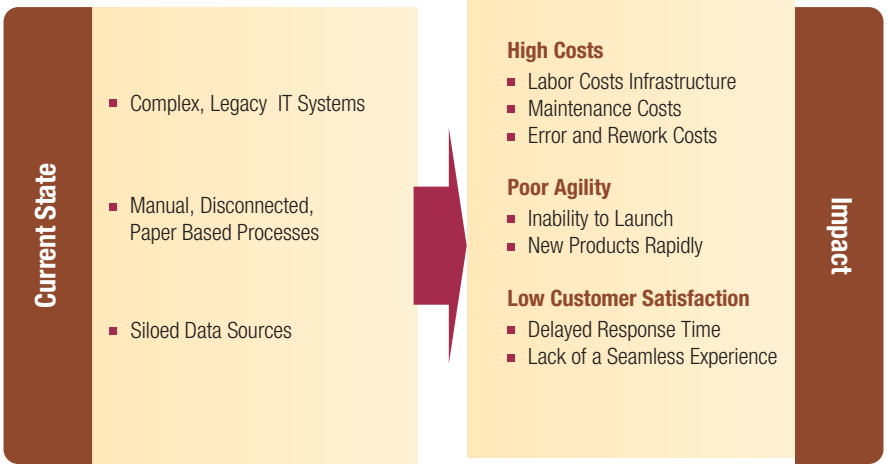
However, the Back-end Legacy Systems that Banks Operate are Fraught with Challenges

Banks have neglected the digitization of their operations for a variety of reasons. Firstly, banks' legacy systems are complex and replacing them without impacting running operations is a challenging task. Secondly, they are expensive to upgrade.

A typical solution many banks have adopted to avoid replacing legacy systems is to build additional applications that provide customer interface, straight-through processing and point-of-sale functionality around the legacy core. Such upgrades have resulted in disconnected silos of information and duplicative processes. For instance, retail banks today have, on average, between 300 and 800 back-office processes to manage and monitor[4]. These processes leave the front and back-office staff to deal with redundant tasks, excessive manual processing, and slow response times (see Figure 1).

> *"Globally, banks continue to rely on core legacy IT systems originally implemented in the 1970s and 1980s."*

Figure 1: Current State of Back Offices

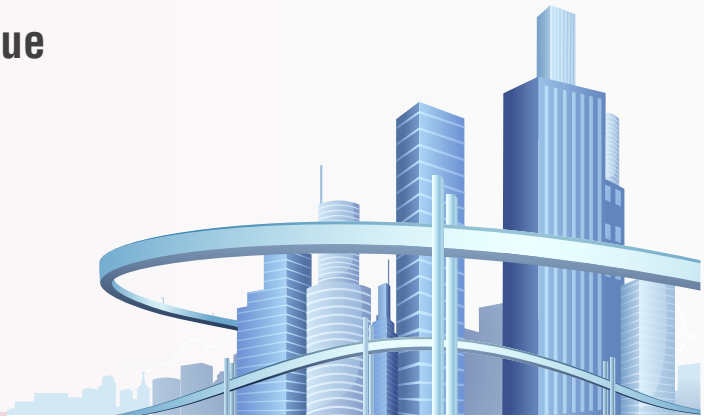


Source: Capgemini Consulting Analysis

The State of the Banking Back Office

Back-end Systems Continue to be Legacy Based

Maintaining legacy systems consumes
90% of technology budgets



Legacy Systems have Resulted in Inefficient Manual and Paper-based Processes

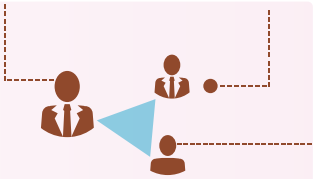
Paper consumption of **10,000** pages per person per year

50% of submitted paper work in account opening gets rejected

Top **10** global investment banks

1 front-line staff = 2 middle/back-office staff

These Inefficiencies Have a Significant Impact on Customer Experience



60% of customer dissatisfaction sources originate in the back office

10-20% of contact center volumes are a result of execution issues in the back office

Only **30%** of banks' executives feel that their operational processes can adapt quickly to external changes

The Current Back Office is Overly Reliant on Paper and Manual Processes

Current back-office operations are manually intensive. An average mortgage application goes through 35 manual handoffs before completion[5]. Manual processes coupled with constant changes in the regulatory environment have also led to a surge in paper-based transactions at banks. For instance, in 2010 JP Morgan saw its paper consumption increase by nearly 55%[6]. According to TD Bank, an American bank, the current benchmark of office paper per person is 10,000 pages per year[7]. Many banks lack the automated processes that can help mitigate the risks of human error and reduce paper consumption costs.

Manual Effort Results in Operational Inefficiencies and Significant Costs

The heavy reliance on manual effort makes bank processes vulnerable to errors and re-works costs. For instance Australia-based Bank of Queensland had to refund $34.5 million to its customers after interest rate and fee errors dating back almost a decade were discovered. The bank also expects to incur an additional $11.5 million in costs to clean up the problems that impacted 4% of its customers. The errors were caused by overly complex products that required too many manual processes[8].

Research indicates that more than 50% of submitted paper work associated with account opening is rejected, leading to increased costs associated with time and resources[9]. Our own research with the MIT Center for Digital Business indicated that only 30% of banking executives agreed that processes and initiatives were coordinated between silos indicating that opportunities exist for process integration and efficiency[10].

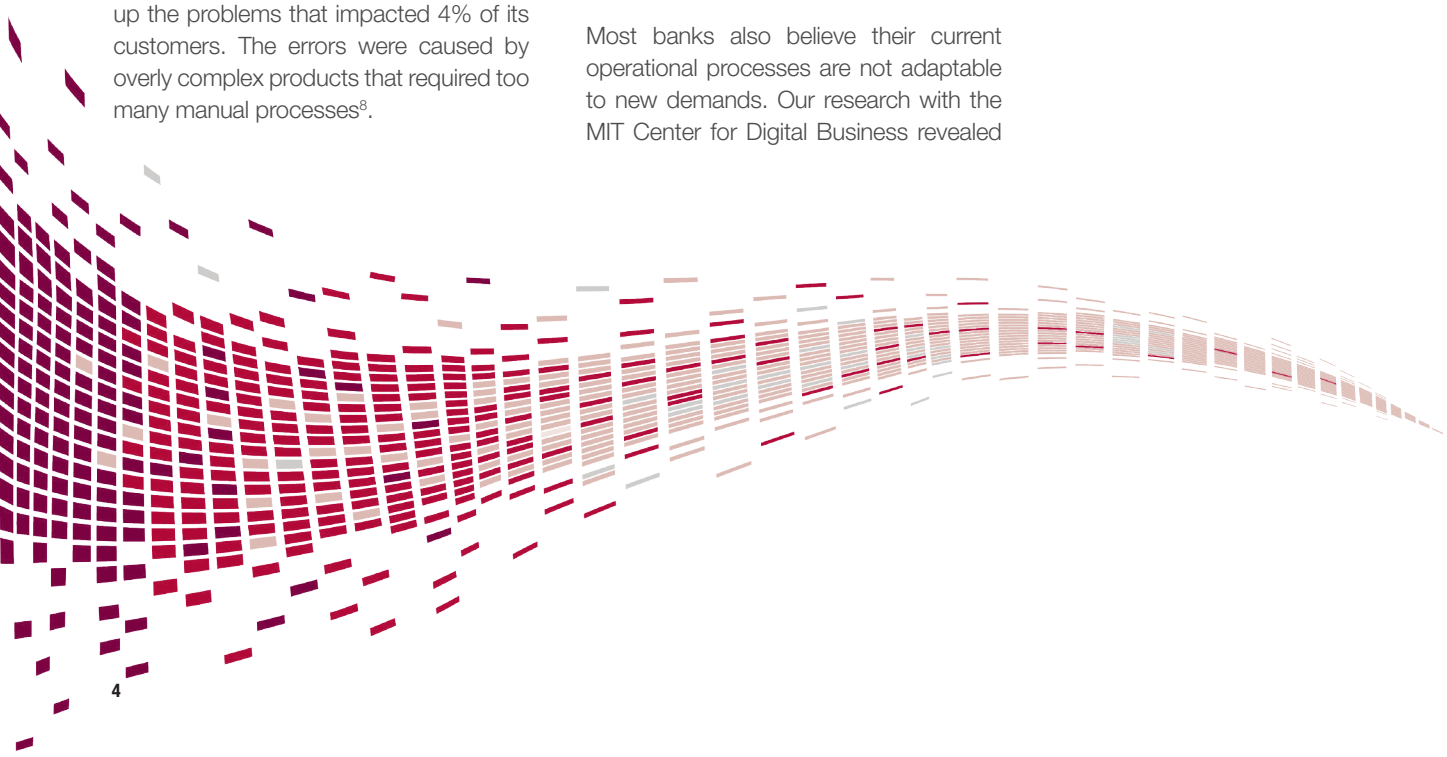
All this complexity comes with a cost - the cost of manual effort needed to compile and interpret data along with the cost of people to maintain these multiple systems. For instance, the top 10 global investment banks employ two middle and back-office staff for every front-line staff member[11].

These Inefficiencies in turn Have a Significant Impact on Customer Experience

Such inefficiencies in the back office in turn impact customer satisfaction and the overall customer experience. For instance, a survey found that 60% of customer dissatisfaction sources originated in the back office[12]. It is also estimated that 10-20% of all transaction volumes in a contact center are the result of execution issues in the back office[13].

Most banks also believe their current operational processes are not adaptable to new demands. Our research with the MIT Center for Digital Business revealed that only 30% of banks' executives felt that their operational processes could adapt quickly to external changes[14]. Banks are facing increasing pressure to bring new products and services to market quickly; however, the existing IT systems hinder product development and time-to-market.

The need to address these operational inefficiencies is compelling banks to digitize their back-office operations. In the wake of increasing compliance, shrinking margins and the evolving customer demands, banks can expect digitization of processes to be a major lever to improve productivity and reduce costs.



What Technologies Can Banks Use to Automate the Back Office?

Digital technologies can help banks effectively streamline their processes and achieve substantial cost savings. These technologies can broadly be categorized as strategic, transformational and tactical solutions based on the quantum of annual savings they deliver and the level of investment required to implement them (see Figure 2).

Tactical Solutions: Document Management Systems (DMS) and Digital Signature Enable Banks to Streamline Paper-Intensive Business Processes

Tactical solutions require low levels of investment and can be implemented without a massive overhaul of existing infrastructure and IT systems. Tactical solutions streamline basic activities such as account opening, mortgage and loan processing, and document printing, and deliver rapid returns, typically in less than a year.

Among tactical solutions, DMS and Digital Signature generate the highest savings by enabling banks to significantly reduce paper-related costs.

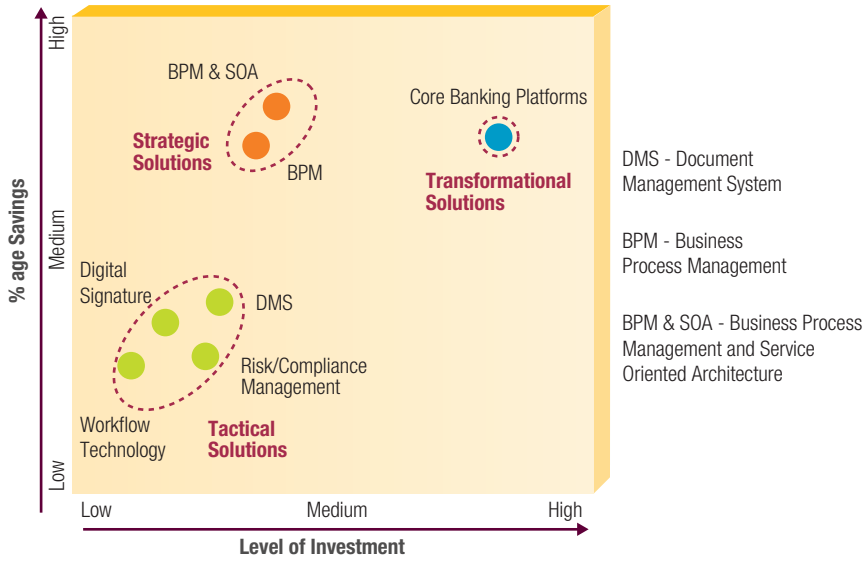
Document Management Systems Lower the Costs and Risks of Paper-Based Processing

It is estimated that information workers spend up to 20% of their time filing and searching through paper documents[15]. Our estimates indicate that a DMS can reduce time spent locating, retrieving and filing documents by nearly 75%. Further, it is estimated that organizations spend as much as $120 on finding a misfiled document and $220 to reproduce a lost document[16]. A shift from a paper-based to a digitized system reduces costs associated with lost and misplaced documents as well as printing and distribution costs. It also lowers error and rework rates. Our analysis indicates that a DMS typically delivers close to 6% in cost savings annually.

Digital Signature Cuts the Costs and Delays Associated with Manual Signatures

The financial services sector continues to be heavily reliant on manual signatures. Recent research indicates that 80% of businesses print documents to be signed, with the figure rising to 94% for the financial services sector. The use of a Digital Signature solution can dramatically reduce paper costs. For instance, France-based BPCE Group launched a pilot electronic signature scheme that enables customers to read and sign their contracts on tablet devices in their own branches[17]. The initiative is expected to save the bank nearly one billion sheets of paper every year[18]. Digital signature solutions can also drive higher conversion rates. For instance, the combination of digital signature and straight-through processing helped a leading UK based bank achieve cost savings of over £6.5 million per year and significant increase in overall sales volumes[19].

Figure 2: Automation Technologies for the Back Office



Source: Capgemini Consulting Analysis

> *A Document Management Solution can reduce time spent locating, retrieving and filing documents by nearly 75%.*

The use of manual signatures also results in delays in processing transactions. Research shows that 72% of organizations experience delays due to the need to collect signatures[20]. Digital signature solutions reduce these delays, while being less prone to fraud compared to manual signatures. The returns from a Digital Signature implementation can be realized rapidly. A survey indicated that 81% of respondents reported seeing a 100% payback within 12 months, and 25% reported seeing an ROI in just three months[21].

Strategic Solutions such as BPM Help Banks Raise Productivity and Customer Satisfaction

Strategic solutions such as Business Process Management (BPM) significantly extend the process efficiencies delivered by tactical solutions. A BPM solution is an integrated platform that combines real-time process monitoring, modeling and optimization capabilities. Many banks have, over the years, implemented multiple cost reduction programs. Nevertheless, more often than not, the costs start creeping back into the system. A BPM solution addresses this issue by delivering cost reductions that are sustainable over the long term. Unlike tactical solutions which are usually static implementations, a BPM solution works on the principle of continuous improvement. As a result, processes are monitored and optimized continuously which results in higher and more sustainable savings. BPM tools also provide real-time insights on business operations which allow banks to detect process bottlenecks and take rapid corrective action. As such, they increase productivity and help banks better address the needs of their customers. BPM can also significantly reduce the amount of human intervention needed in banking processes. The resulting unused employee time can be re-allocated to more productive purposes. For instance, a Dutch bank that provides services to institutional investors used a BPM tool to reduce its settlement desk's manual operations. By automating the processing of its settlement requests, the bank minimized manual effort and in the process was able to achieve a 75% reduction in labor costs[22].

UK's Lloyds Banking Group deployed a BPM solution as part of a 4-year technology program aimed at streamlining processes. BPM was used to help eliminate duplicate, redundant and scattered core systems and processes[23]. The bank saw a substantial increase in process efficiency as a result of the program (see insert).

Our estimates indicate that a BPM solution delivers savings of nearly 15% annually. Banks can typically realize a return on investments from their BPM solution in 2 years.

> *"BPM united with Service Oriented Architecture has compounded benefits."*

Using Digitization to Navigate Regulatory Challenges

The banking industry faces significant regulatory challenges. The industry needs to respond to increased regulatory scrutiny and provide accurate reporting on risk exposure. The current systems in use at banks are complex and inflexible making it difficult to respond to regulatory demands. For instance, in the UK alone, non-compliance fines amounted to £66 million in 2011. The cost of compliance failure is escalating with fines increasing by at least 300% during the second half of 2012. Compliance failure not only impacts the bottom line but also results in loss of trust from customers and regulators. Digitization helps banks to effectively manage, monitor and report on regulatory compliance. Back-office digitization simplifies document storage, search and retrieval, and enables banks to furnish compliance related information more easily to regulators. By doing so, banks can also gain the confidence of the regulators on their commitment to transparency and control.

Source: JWG, "FS infrastructure: ready for G20 reform?", March 2012; Banking Technology, "Financial crime: compliance and failure", November 2013

BPM based on Service Oriented Architecture (SOA) Principles Delivers Enhanced Benefits Compared to Pure-Play BPM Implementations

When combined with Service Oriented Architecture[24] (SOA) principles, the benefits of BPM are compounded[25]. SOA provides a flexible architecture for adding new services. For instance, BPM platforms can easily build new services into a business process if a bank has already implemented SOA. Additionally, SOA enables the elimination of many of the high costs that are often associated with integrating solutions thus leading to a greater ROI for applications.

Germany's Degussa Bank introduced a BPM system to increase transparency and gain better knowledge of its processes. The bank used a combination of SOA and process management to industrialize and optimize its customer service process. The model allowed the bank to tailor its offering to the customer's needs and achieve efficiency savings of 30% per annum as a result of the optimised customer-centred process. The agility offered by a SOA and BPM combination also allowed the bank to incorporate new regulatory requirements, products or pieces of customer information into a process without any business disruption[26].

Transformational Solutions Offer Benefits that Extend Beyond Cost Savings and Position a Bank for a Digital Future

The impact of transformational solutions is felt across the organization at all levels. These solutions enable the development of customer applications and products, either online or mobile, which create new opportunities to enhance customer experience and increase revenue potential. For instance the Commonwealth Bank of Australia undertook a six year core modernization program. The effort has allowed the bank to deliver innovations such as a mobile app on real-time settlement and banking. The bank has also launched a SmartSign service that allows customers to execute loan documents electronically using a secure online portal[27].

Transformational solutions demand high investments and the payback periods are longer compared to strategic solutions. Our estimates indicate that the payback period for a core banking implementation is around 4.5 years while annual cost savings are around 9%. However, these solutions need to be viewed as investments that target benefits beyond just costs. Core banking systems integrate back-office systems across operations such as retail, corporate and private banking, consolidate data from disparate systems, and enable a unified view of transactions. Consequently, they allow banks to respond rapidly to changing market requirements and provide a seamless customer experience.

US-based bank BBVA Compass undertook a $360 million replacement of its legacy core that yielded benefits far beyond cost savings alone. The initiative helped the bank achieve 13% savings due to greater straight-through processing, reduced back-office operations requirements and improved productivity benefits. Importantly, the project has reduced time to market for new products by up to 75%[28]. The move to a new core platform also helped the bank provide a differentiated customer experience by delivering greater account transparency and a seamless, multi-channel experience[29].

> *"Lloyds Banking Group's 4-year technology program including BPM software helped achieve annual savings of £352 million."*

Lloyds Banking Group – Automation Drives Increased Efficiencies

Lloyds Banking Group invested in a 4-year technology program (including BPM software) starting in 2011 that involved automating and simplifying complex manual banking processes. These initiatives helped achieve annual savings of £352 million, and a 7% reduction in total costs. The bank is further aiming to save £1.7 billion in 2014. The program reduced the number of unique business processes from 700 to just 23, thus helping to halve the number of manual errors.

- Lloyds cut the time it took its staff to close old accounts from 30 minutes to 3 minutes.
- The time required for customers to transfer money to Individual Savings Accounts (ISAs) reduced from a couple of days to within 24 hours.

Source: Computer World, "Lloyds on track to reach savings target after back office consolidation", May 2012; ComputerWeekly.com, "Lloyds customer complaints plummet after automating manual processes", June 2013

Automating Back Offices Can Help Banks Realize 30% Cost Savings

We analyzed the potential cost savings that banks can realize by adopting automation solutions. For our analysis, we selected one representative solution from each technology category and assessed its impact on cost savings.

We assessed the impact of the automation solutions on labor, error remediation, training, and distribution costs, among others. Our analysis revealed that by choosing a portfolio of solutions that covers each of the three technology categories, banks can realize significant savings.

Illustrative Technology Solution Mix and Potential Cost Savings

Technology Category	Solution	% Annual Cost Savings	Total Annual Cost Savings
Strategic	BPM	15%	30%
Transformational	Core Banking Platform	9%	
Tactical	Document Management Systems	6%	

Assessing the Benefit Impact of Chosen Portfolio of Technology Solutions

- **Business Process Management**

  Our calculations show that BPM solutions can contribute to 15% of overall cost savings annually.

Impact of BPM on Specific Expense Categories

Source: Capgemini Consulting Analysis

- **Document Management Systems**

  Our analysis shows that Document Management Systems can generate 6% cost savings annually.

Impact of DMS on Specific Expense Categories

Source: Capgemini Consulting Analysis

- Our analysis indicates that core banking transformations can contribute a significant 9% annually to overall cost savings. The savings accrue from reduced IT infrastructure maintenance costs and an overall reduction in operating costs due to increased process efficiencies.

  We have not considered the usage of cloud technologies in this mix. Using cloud technologies can only increase the overall realizable cost savings, based on the extent of their deployment.

  Note: This analysis is an illustration of potential benefits from automating back offices in banks.

How Should Banks Approach Back-Office Digitization?

Digital technologies afford many options for banks. However, they will need to prioritize their focus areas of investments in back-office automation in light of several constraints. Key among these would include investment horizon as well as technology, process and organizational readiness (see Figure 3). Each of these areas has the ability to skew priorities for or against a particular technology rollout option.

> *Disconnected silos of information and duplicative processes have limited the full impact of automation.*

Assess the Interoperability of New Solutions While Planning an Increase in Automation Levels

Over the past few years, many banks have deployed a variety of automation solutions, but often in an ad-hoc fashion. Such ad-hoc implementations have resulted in disconnected silos of information and duplicative processes, limiting the full impact of automation. Banks need to conduct a technology readiness assessment to determine where they stand, the percentage of legacy systems that still exist in their back office and their current level of investment in automation solutions, before rolling out new solutions. This is critical to ensure that new solutions are interoperable with existing systems, so that workflows are optimized rather than duplicated, and data sources are unified.

Deploy Tactical Solutions to Rapidly Address Low Levels of Process Readiness

Banks should assess their current state of process readiness before implementing new automation solutions. Process readiness should be evaluated based on the proportion of manual versus automated processes and the degree of process duplication in the organization. Banks with a higher percentage of manual and duplicate processes should look to adopt tactical solutions as a quick-fix towards addressing basic process inefficiencies. For instance, the rollout of tactical digital solutions such as a Document Management System can deliver immediate benefits by reducing the costs and inefficiencies that are inherent in paper-based operations.

> *Banks need a technology readiness assessment to determine the percentage of legacy systems and current level of investment in automation solutions.*

> *Budget availability, expected payback period and overall returns drive choice for strategic and transformational solutions.*

Evaluate Suitability of Strategic or Transformational Solutions Based on Investment Horizon

Strategic and transformational digital solutions are typically time-intensive, both during deployment, as well as in seeing returns. Additionally, transformational solutions require significant investment upfront. As such, banks should closely base their choice of solution in light of availability of budgets, expected payback period, and the overall estimated returns. A combination of these parameters will help banks determine the first choice between strategic and transformational solutions.

Obtain Management Buy-In and Establish Support Systems before Implementing Transformational Solutions

Banks need to consider the amount of cultural change that will accompany transformational initiatives for process digitization to be successful. Transformational solutions need the backing of management at all levels because they bring about radical changes in a bank's operations.

The key is to introduce the practice of end-to-end process ownership, adopt new ways of working and better integrate the different organizational entities - such as the business, IT and change management units. Banks should appoint a digital czar or a digital steering committee with top management representation in order to help drive acceptance of transformational programs across the organization. Banks should also set up digital units or centers of excellence to promote the re-use of business processes and best practices across the organization.

Process digitization is as much a people journey as it is a technological one. Its impact will be felt across the organization through better, faster and more efficient ways of doing things from launching and marketing new products, to delivering compliance, and tracking benefits delivered on large programmes. The possibilities offered by process digitization, therefore, are not limited only to achieving efficiency in the process itself, but expand into the significant opportunities of managing the business on a close to real-time basis. It could, for those who seize this opportunity, lead to a new culture and ultimately a new bank.

> *"Management Buy-In is critical prior to embarking on a digital transformation program."*

Figure 3: Assessment Parameters for Investment Prioritization

Source: Capgemini Consulting Analysis

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