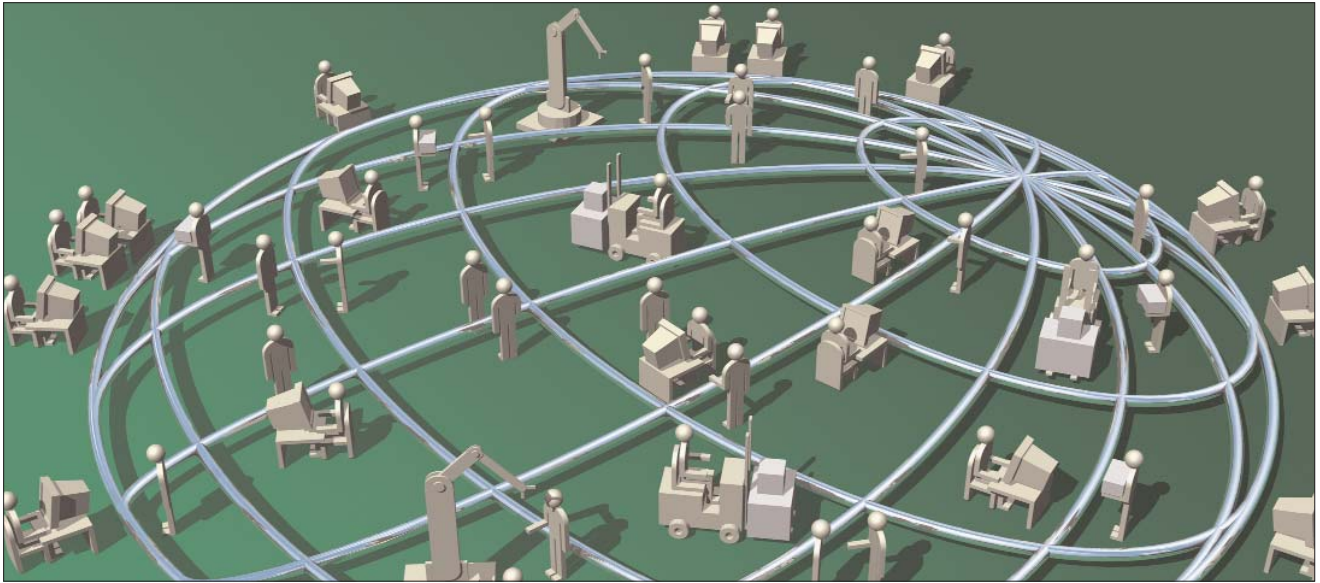


Renewing Core Banking IT Systems: Open-Heart Surgery for European Banks

BCG's Third Annual IT Cost Benchmarking Study



MANY EUROPEAN BANKS ARE FACING A CRITICAL challenge to their future competitiveness and profitability. Their core banking IT systems, having typically been developed and maintained in-house over many decades—and built using proprietary technologies that are now becoming outdated—are performing poorly and draining valuable resources. In numerous cases, banks are trying to function with a patchwork of legacy systems that not only cannot communicate or share data with one another but also require frequent and costly maintenance. For these reasons, many European banks have started to discuss the possibility of renewing their core banking IT systems on a total or partial basis.

Such discussions, however, do not always lead to action. CEOs and CIOs know that extensive IT-renewal projects can involve high costs, high complexity, and high risks. Indeed, previous failures at revamping core banking IT systems in the industry—and fears of repeating those mistakes—have created a climate in which sometimes only disruptive changes in the business environment, such as

merger-and-acquisition (M&A) activities or new regulatory constraints, can trigger a move to substantially improve IT performance.

Yet when so many core banking IT systems are inadequate, critical questions remain: How can financial institutions reach an informed view on how to approach IT system renewal? Moreover, what are some of the major players in Europe doing about the issue, and how are they faring?

These matters were central to BCG's third annual European IT Cost Benchmarking in Banking Survey.¹ The survey has two aims: first, to analyze general IT performance data and their relationship to business performance; and second, to investigate a critical IT issue in the banking industry and explore how players can successfully address it. In the current survey, the special topic we examined was the steps that banks can take to improve the

1. The survey, conducted in 2005, involved 21 leading European banks from ten countries. Ten participants contributed data to this year's special topic of core banking IT-system renewal.

performance of their core banking IT systems, which include applications for managing customer information, deposits, loans, and card accounts, as well as for processing and posting all types of transactions. These systems are at the heart of IT architecture in banking and will be increasingly important not only in terms of pure cost and performance but also in terms of overall competitiveness and profitability over the next decade and beyond. (See Exhibit 1.)

The premier issue is whether European banks should opt for total renewal—the equivalent of open-heart surgery—or take a more moderate, less invasive approach. Each bank must come

to a decision on the basis of its own resources and current IT landscape.

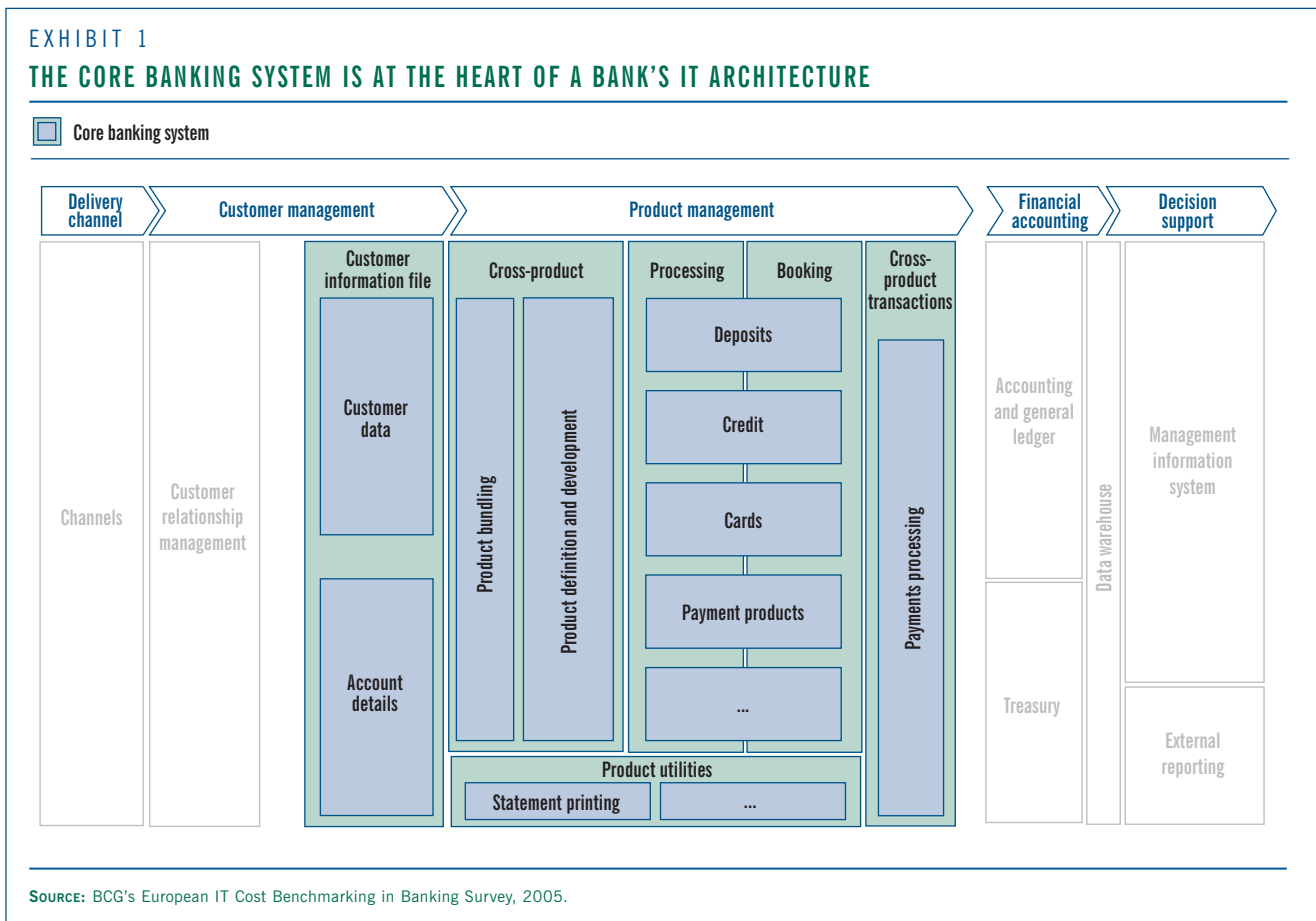
How Much IT Renewal Is Necessary?

According to survey participants that contributed to this year’s special topic, a state-of-the-art core banking IT system should be able to execute many functions that the average system currently cannot—such as facilitate product innovation, bundling, flexible pricing, the integration of third-party products, and real-time processing. Such a system should include a comprehensive database for all business segments that supports customer centricity. The system should also include a func-

tion that allows smooth IT integration of new-product launches in order to accelerate the time to market of new offerings.

The majority of our survey participants said they had at least considered replacing their legacy core banking IT systems. Those not considering such a step said that their hesitation stemmed generally from wanting to avert risk following unsuccessful or disappointing previous renewal attempts or from witnessing the failed efforts of peers.

Six contributors to our special topic said they were currently renewing their core banking IT systems—five completely and one partly. The strongest reasons for



the move, they reported, were technical obsolescence and lack of flexibility in legacy systems. Other drivers were a lack of efficiency, insufficient scalability, generally poor performance, and postmerger integrations that called for creating a core banking system that was new for both parties in order to achieve the expected synergies. Clearly, the renewal decisions of our survey participants have been based mostly on qualitative considerations instead of on business-case calculations involving costs and anticipated benefits. Moreover, all participants said they favored a phased approach, in which the legacy system would be replaced module by module or in several waves, instead of a “big bang” migration.

Most of our survey participants chose custom-developed software for building their new core banking IT systems. The reason for that choice, they said, was that the less expensive commercial software currently on the market did not meet their individual needs and requirements. Several banks that did venture to buy a commercial software package had to significantly adapt and modify the product.

Although commercial software can be problematic during implementation, it can potentially pay off later by helping to reduce long-term IT operations costs—provided that a good deal of the software’s original functionalities are kept and that the necessary modifications are efficiently

designed. Furthermore, our case work with financial institutions of all sizes indicates that off-the-shelf software can be a preferable solution for small banks, which often focus on certain customer segments or specialize in specific product portfolios.

All of our survey participants indicated that they preferred

Most core-banking-IT-system renewals are suffering significant overruns of cost and time.

the host/mainframe technical platform and did not intend to switch to a different platform in the course of system renewal. They also said that ongoing application development would be conducted mostly in-house for the new system, as was the case for the old system. Only desktop services and first-level support would be outsourced to a broader extent, with the development of new functionalities and application maintenance being offshored in selected cases.

These findings mirrored those of last year’s survey, in which we found that desktop services and local support were the most widely outsourced IT functions among European banks.² Participants in that survey outsourced about 70 percent of such activities, on average.

The renewal projects of this year’s survey participants all started between 1998 and 2003 and are still ongoing—albeit in different stages of development. Most renewals are suffering significant overruns of cost and time, with current delays varying between roughly 25 and 60 percent over the original time schedule, and budget excesses varying between 10 and nearly 100 percent over the original estimates. Virtually all survey participants said they had struggled to deal with expanding project scope and changing requirements, such as those brought about by new regulatory and business conditions. Initial cost benefits, many reported, had evaporated as the desired functionality shifted and complexity increased.

How can such costly, time-consuming, and frustrating difficulties be avoided? The key is to have a process that can help you determine and manage the optimal scope of your own bank’s IT-renewal project.

The BCG Perspective: An Evaluation Framework Facilitates Sound Renewal Decisions

There is no one best way for all banks to successfully renew their core banking IT systems. Ultimately, each institution must gauge its specific situation, requirements, and constraints, and arrive at its own solution. That said, our work with banks on a wide variety of IT issues has helped us identify a general

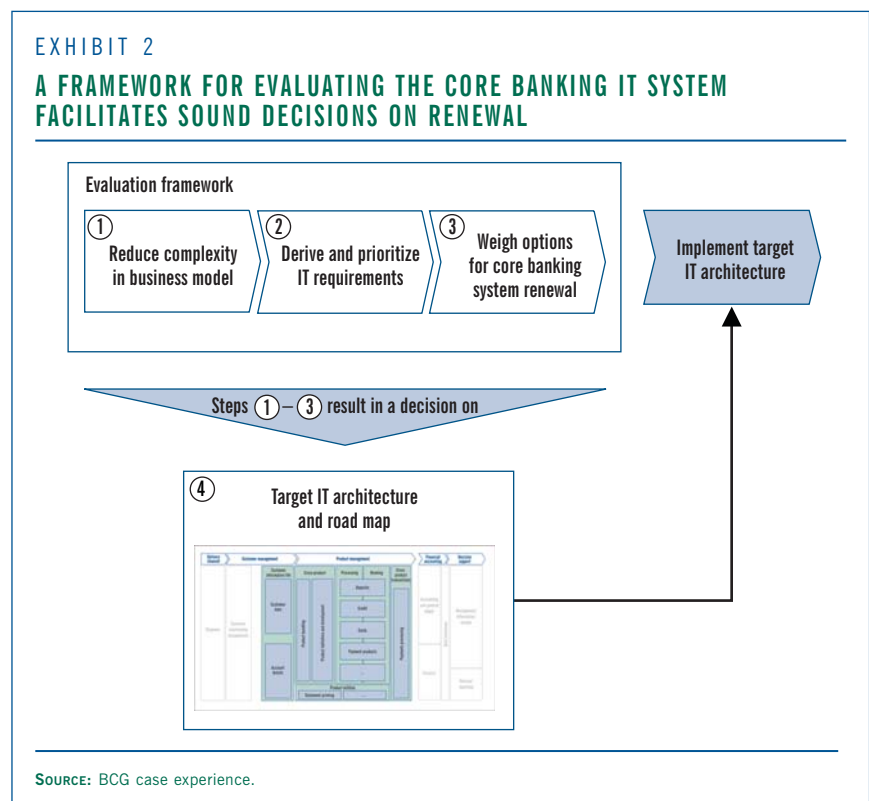
2. See *IT Outsourcing and Offshoring: Hype or Opportunity? IT Cost Benchmarking in the European Banking Industry*, June 2005.

framework for evaluating the issue of renewal. (See Exhibit 2.) The framework consists of four steps, followed by an implementation stage:

- Assess and reduce complexity in your current business model
- Determine and prioritize your IT requirements and capabilities
- Weigh options for the renewal of your core banking IT system
- Develop a target IT architecture and technology road map

The first and most critical element in the framework is to assess and reduce complexity in products, processes, and overall organization. Excess complexity, which can be brought about by such dynamics as an expanding and diverse product portfolio and M&A activities, often leads to a vicious cycle of rising operations and maintenance costs that constrain necessary new investments. Moreover, without a highly focused product strategy, the implementation of a *product generator function*—cited by many banks as crucial for competitiveness—can result in additional, unnecessary complexity. Banks exploring a renewal of their core banking IT system must assess their overall level of complexity and attempt to reduce it through streamlining the product portfolio, reengineering processes, and simplifying organizational structures.

Taking these actions should result in a more focused business model whose IT requirements



can then be derived. If a total or partial system renewal is then deemed necessary, the reduction in complexity that has already been achieved will make implementation of the new IT system that much easier. Indeed, lessening complexity as a preliminary step can not only help banks come to a sound decision on how much IT renewal is necessary but also limit the final project’s scope and help keep it manageable.

In the second step of the framework, the streamlined product portfolio and target business model are translated into specific, detailed IT requirements. It is important to ensure that only those IT requirements essential to the redesigned business model are considered in order to avoid rebuilding the functionalities of the legacy system. The new IT

requirements must therefore be prioritized along two dimensions: business impact and gaps in capabilities that need to be narrowed or closed.

In the third step, banks must conduct a qualitative and quantitative assessment of all viable options regarding renewal of the core banking IT system. The set of options is determined by the scope of renewal deemed necessary—no renewal, partial renewal, or total renewal—as well as by the “make or buy” software decision that the bank must make if some degree of renewal is attempted. A business case should be developed for each alternative using a clear, driver-based approach. On the basis of this analysis, the bank can then decide which option has the best potential to meet its individual needs.

In the fourth step of the framework, banks need to develop the target IT architecture and technology road map for the chosen alternative. But the project does not stop there. The target IT architecture must be effectively and efficiently implemented.

Successful Implementation Depends on Four Critical Factors

All of the survey participants engaged in renewing their core banking IT systems have experienced project delays, budget overruns, quality problems, organizational roadblocks, and in some cases project failures. But four critical success factors for implementing the target IT architecture can help banks avoid those pitfalls. These factors are strong internal capabilities, careful selection of implementation partners, clear contractual parameters and roles, and rigorous project and change management.

Strong Internal Capabilities. Most sizable implementation projects involve considerable external personnel. Among our survey participants, funds paid to external suppliers varied between 64 and 90 percent over the renewal project budget. The contribution of these external parties must be maximized, however, by having the right internal resources working with them. A key success factor is thus having highly skilled and fully committed internal personnel, which are essential in order to oversee and manage vendors, protect the bank's interests, steer the project effectively, and deal with potential extensions to the

project scope and other requests for changes that may arise. The successful transfer of know-how from the software vendor or system integrator to bank employees is also made far easier when internal resources are at an optimal level.

Indeed, the top internal people in the implementation project

Banks should meticulously examine the potential implementation partner's capabilities.

should be judiciously chosen, with their responsibilities and accountabilities sharply mapped out well in advance of implementation. It is also necessary to ensure that senior management fully backs the project. The frequent, on-the-scene presence of senior managers can help invigorate the process and overcome the difficulties of coordinating efforts across different departments and business units.

Careful Selection of Implementation Partners. A bank's implementation partners should be just as carefully evaluated and selected as the target IT-system architecture. Yet many banks say that external vendors sometimes pursue interests that are not aligned with the bank's interests, engage in too many parallel projects (leading to insufficient capacity and capabilities), or simply fail to understand the

bank's specific needs. Some banks, most often small-to-mid-size institutions, complain that vendors sometimes assign second-tier personnel to their projects.

In selecting implementation partners, banks should initiate a process that meticulously examines the potential partner's background, capabilities, reliability, and compatibility. The search can also include formal requests for proposals and information from candidates. Banks trying to find the best vendors for every aspect of a project must also be wary of engaging multiple software providers or implementation partners, because the resulting complexity can be extremely difficult to manage. Choosing vendors that possess IT capabilities complementary to those of the bank can be advantageous.

Clear Contractual Parameters and Roles. Contracts with vendors should typically contain a fixed price for the total project, explicit explanation of all necessary procedures, and a definition of minimum service levels. Clearly defining the roles of all parties involved is also a must. For example, a bank needs to ensure that the prime contractor assumes the majority of project risks and has full responsibility for delivering the target system.

One way to shift customization risk to vendors and cope with project extensions is to mandate functionalities that are commonly possessed by the bank's competitors or that ensure full

regulatory compliance. In addition, a comprehensive monitoring tool, a user-friendly change-request process, and severe penalties for delays or poor quality should be established and agreed on. Such terms can help banks handle potential situations in which the software vendor or system integrator underperforms. Finally, an independent third party—acting as controller, challenger, and facilitator—can be an advantage.

Rigorous Project and Change Management. A strong project-management team must be assembled in order to track progress, put things right when they fall off the rails, and ensure that milestones are met in a timely manner. An effective project-management team should include a vendor relationship manager who can help smooth out disagreements or misunderstandings when they arise and enforce contractual obligations when necessary.

In order to overcome resistance to change in the organization, the bank must clearly and effectively communicate the project's details and progress to all of the departments and business units involved. Suitable staff training in advance of the project can help establish cooperation and capacity for change.

It is clear both from our client work and from our interviews with leading European banks that the performance of core banking IT systems represents a

critical challenge—one that will weigh heavily on profitability and overall competitiveness. Banks must actively grapple with this challenge, come to a sound decision on the extent of renewal that their own system needs in order to ensure optimal performance, and implement any changes effectively and efficiently. Banks that do

The bank must clearly communicate the project's progress to all departments and business units involved.

not approach upgrades to their core banking IT systems proactively may find themselves lagging behind competitors that do.

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Annual IT Cost Benchmarking Along Key Dimensions

In carrying out our third annual IT cost benchmarking survey, we used actual data for 2004 and earlier, and forecast data for 2005. Overall, we found that the performance of participating banks further improved in 2004 as most continued to show revenue growth. On average, revenues increased by 5.5 percent compared with 2003—nearly four times the average gain between 2002 and 2003. However, average operating expenses also rose—by almost 5 percent, having

decreased by 2.1 percent in 2003—as some of our participants struggled with extremely high provisions for loan losses.³ Still, the overall effect was continued improvement in average operating margins, which climbed to 28.7 percent in 2004—a gain of 5.2 percentage points over 2003. There was considerable variation within our sample: margins ranged from more than 40 percent for top players to negative margins for poor performers. As in our previous two studies, we found that banks with higher IT spending levels do not necessarily show higher overall efficiency.

The average total IT spending of our participants continued to decrease, falling by 2.2 percent in 2004, following a decline of 0.1 percent in 2003. But average IT spending for 2005 is expected to show an increase of approximately 7 percent when final numbers are available. The main reason for this expectation is that banks rigorously cut their IT project spending in recent years owing to tough cost-reduction initiatives, and subsequently started to reduce their IT investment backlog in 2005.

In order to identify the positions of our benchmarking participants in their IT investment cycles, we also calculated key IT cost metrics—such as IT cost as a percentage of both revenues and operating expenses. In general, we found that the downward trend seen in last year's study continued, with key IT cost met-

3. Operating expenses equal administrative expenses plus provisions for loan losses plus other provisions.

rics further decreasing in 2004, although still showing strong variations among our survey participants. (See Exhibit 3.) On average, IT costs represented 9.5 percent of revenues in 2004, compared with 11.3 percent in 2003. IT costs as a percentage of operating expenses dropped from 15.4 percent to 13.6 percent during the same period.

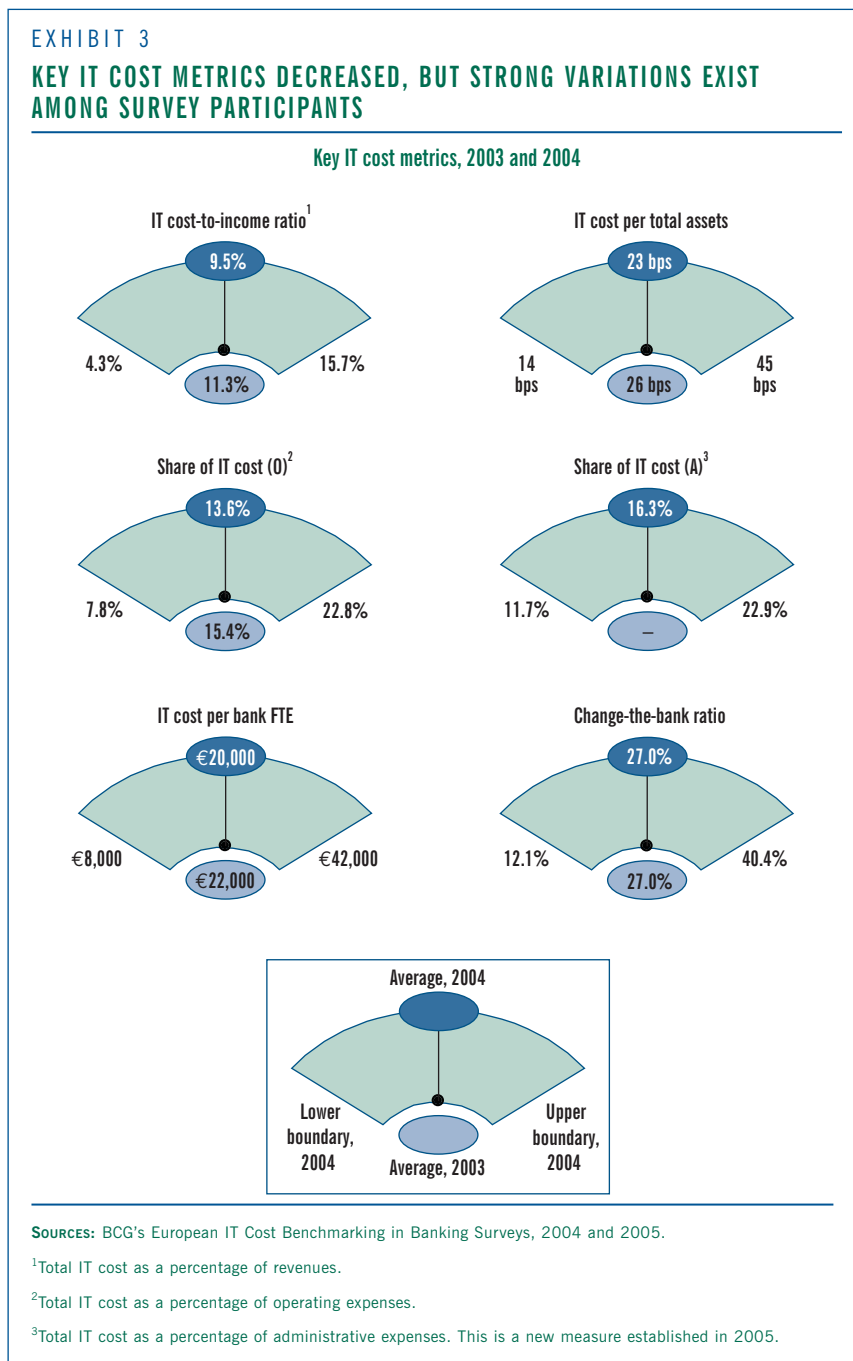
Because some of our survey participants consider administrative spending when gauging their IT cost position, we introduced IT cost as a percentage of administrative expenses as a new ratio in the current study.⁴ On average, IT costs represented 16.3 percent of administrative expenses in 2004 for our survey participants. Furthermore, IT cost per

employee dropped from €22,000 in 2003 to €20,000 in 2004. Our participants expect all IT cost metrics to have risen in 2005.

There are two other drivers of IT cost levels for banks: the region in which the bank is located and the bank's specific business mix. As in last year's study, we found regional trends in IT costs and operating margins. Iberian banks, for example, tended once again to have the lowest overall IT cost metrics—partly owing to favorable margins in these countries—whereas British and Irish banks continued to have the highest operating margins and relatively low IT cost metrics. German banks had a comparatively high share of IT cost based on administrative expenses (19.2 percent). Moreover, they still struggled with relatively weak operating margins and higher-than-average IT spending. Nevertheless, the pan-European trend toward lower IT cost metrics can be seen on a country level. For each region, key IT cost metrics decreased in 2004 compared with 2003.

Our study also confirmed a previous finding regarding IT and business mix: the greater the percentage of a bank's revenues that come from retail banking, the lower its IT cost metrics tend to be. The reason for that finding is that IT requirements are generally more simplistic in retail banking, with architecture and applications that are more

4. Administrative expenses equal personnel cost plus material cost including depreciation of fixed assets plus other administrative expenses.



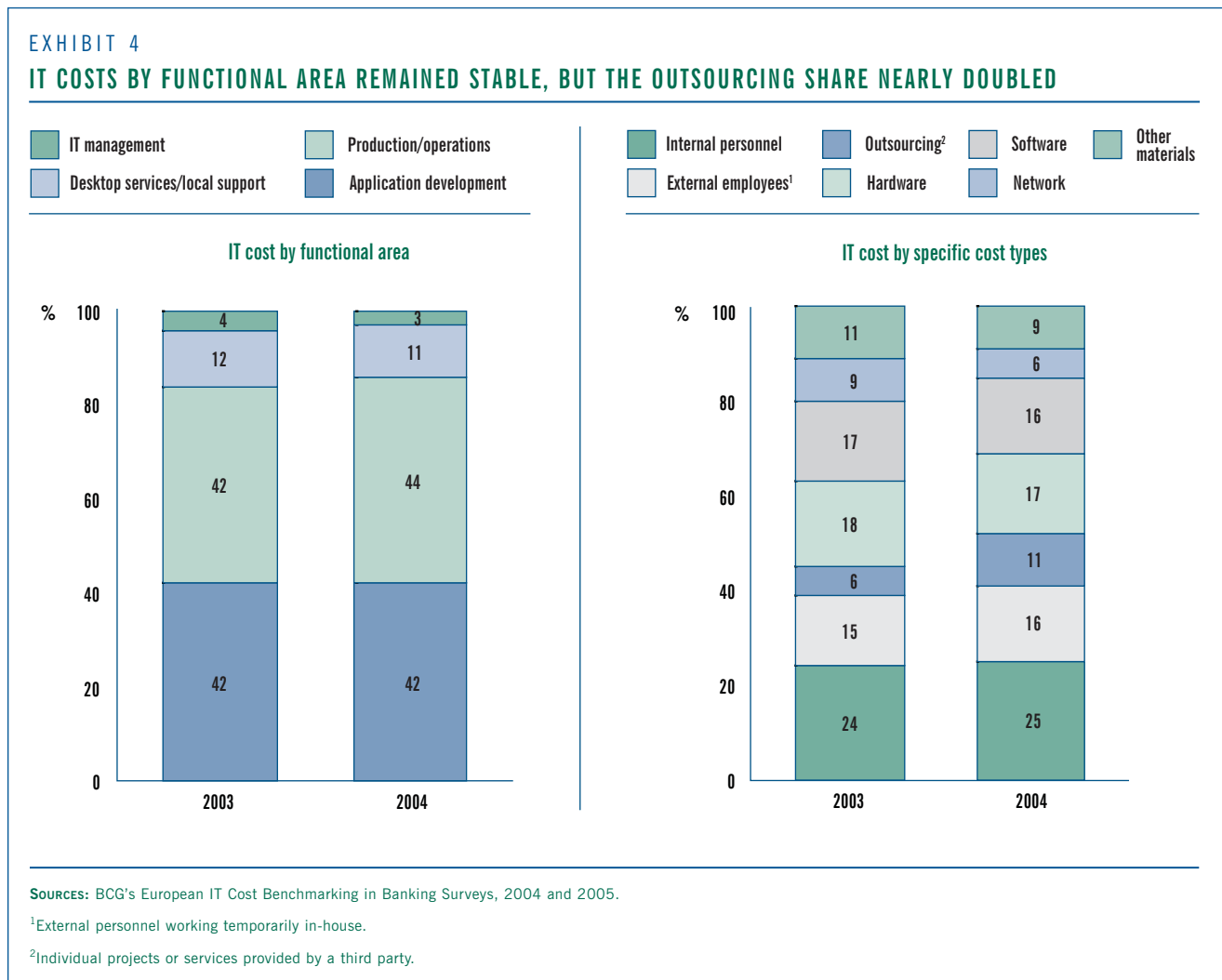
standardized, than in many other segments. Indeed, IT cost metrics can be remarkably different depending on a bank's business-segment focus. In order to gauge these differences, we therefore calculated segment-specific metrics among our survey participants. In 2004, total IT costs and other key metrics decreased for nearly all business segments. The exception was capital markets, where IT cost as a percentage of revenues increased from 12 percent to 15 percent, while IT cost as a percentage of operating expenses rose from 23 percent to 26 percent.

We also analyzed a breakdown of total IT costs by functional area—that is, by comparing *run-the-bank* and *change-the-bank* IT costs. Run-the-bank costs are those required to maintain a bank's existing IT operations without adding new functionalities. Change-the-bank costs reflect innovations, primarily in application development, that change current IT functionality.

Despite generally positive business results in 2004, most of our survey participants did not increase their change-the-bank ratio, which remained at an aver-

age of 27 percent of total IT costs. Moreover, the majority of total IT costs (about 44 percent, on average) were related to production and operations—or those activities that keep existing IT operations running.

Splitting total IT cost by specific type also revealed that the outsourcing share of total IT costs almost doubled in 2004—from 6 percent to 11 percent. This finding confirmed expectations of the benchmarking participants in last year's study, most of which said they intended to increase IT outsourcing activities. (See Exhibit 4.)



Methodology

To achieve a reasonable degree of comparability in IT cost positions and corresponding ratios, we chose only leading European banks for our benchmarking study. As in last year's survey, a bank had to be a European player that either had significant interests outside its home market, had a leading position in its home market, or held total assets of at least €250 billion in order to qualify for participation.

Twenty-one leading European banks from ten countries provided data for our study. Eleven of the participants were among the top 20 European banks in terms of market capitalization. The sample size and mix were closely comparable with last year's study, and statistical accuracy has been improved.

In preparing this report, we used actual data for 2003 and 2004, and forecast data for 2005—all

provided by participating banks. Furthermore, we used only simple averages in order to ensure consistency. Not all banks provided data for all measures and for all years. Some averages may therefore be slightly distorted owing to varying samples. For example, function- or business-segment-specific averages necessarily involve data from only those banks that provided a complete functional or segment-specific split.

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At BCG, we will always welcome the opportunity to sit down with banks to discuss their successes, their challenges, and the ways in which they can build competitive advantage. If you would like to discuss your banking business or its IT-related aspects with BCG, please contact one of the following leaders of our global Financial Services and Information Technology practices:

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