IT Performance in the European Banking Industry

_BCG’s Sixth Annual IT Cost Benchmarking Study_

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The Boston Consulting Group’s annual IT benchmarking survey of European banks has one primary objective: to analyze general IT performance data and their relationship to business results. In this, our sixth annual survey, we used actual data from 2006 and 2007 that were collected from 19 leading European banks from eight countries.

The Financial Crisis Has Had a Dramatic, Negative Impact on Banks

Globally, total shareholder return in the banking industry declined from 26 percent in 2006 to only 2 percent in 2007—and plummeted to about –33 percent in 2008. Global write-downs amounted to $887 billion from April 2007 through March 2009. Clearly, the financial crisis and highly volatile capital markets have been catalysts for sharp declines in banking performance—evidenced by extraordinary losses and rising risk-management costs—that can be reversed only by reviewing and adapting business models.

The demand for commercial-banking services—retail, corporate, and wealth management—is expected to remain relatively stable, and the demand for capital markets products is at present decreasing. As a result, the target mix of business segments, coupled with adjustments to business and operating models, will form a large chunk of the foundation for competitive advantage in the banking industry.

Our benchmarking survey revealed the first indications of an unfolding crisis. Although we found that most of our survey participants increased their revenues in 2007 by an average of 5.4 percent over 2006 revenues, that growth level was significantly lower than the longer-term average of about 8 percent per year from 2003 through 2007. The slower growth rate was largely the result of the average 2007 revenue decline of 14.3 percent in the capital markets businesses of the banks in our sample. By contrast, retail, corporate, and private-banking businesses posted continuing strong revenue growth in 2007.

Operating expenses increased significantly in 2007, heavily influenced by a 37.5 percent increase in loan loss provisions—another harbinger of the turbulent times to come. European banks continued to spend on IT and in other areas. This spending, combined with lower revenue growth, led to higher cost-to-income ratios among European banks for the first time in many years.

It is worth noting that although IT cost growth has no clear impact on revenues in either the short or the
long term, IT budgets do generally benefit from positive revenue growth. What is more, the quality of banking IT—in terms of application availability, degree of automation, and length of processing times—significantly influences business success and brand image from the viewpoints of customer satisfaction and loss of potential business if systems are down or not user friendly.

In addition, IT spending does not generally drive overall expenses in the different business segments. But there are exceptions. Several banks in our sample made significant investments in IT in order to expand automated processes and bolster their competitiveness. In fact, non-IT expenses have been growing faster than IT spending, indicating that banks have pursued other investment priorities such as product development and human resources.

**Business Mix and Global Reach Significantly Influence IT Cost Metrics**

According to our findings, both the business mix of European banks and their geographic scope have a clear effect on their IT cost metrics. We also found that internal IT landscapes are changing and that the financial crisis is forcing banks to adapt business models—which, in turn, is affecting operating models and their IT elements.

As in our previous studies, we calculated key IT cost ratios in order to identify the positions of our benchmarking participants in their IT investment cycles. These ratios include IT cost as a percentage of revenues (IT cost-to-income ratio, or ITCIR), of operating expenses (share of IT cost), and of administrative expenses (IT intensity). The general downward trend of IT cost metrics observed in our previous studies did not continue in 2007.

On average, IT costs represented 8.8 percent of revenues in 2007, staying roughly constant with the previous year. While IT costs as a percentage of operating expenses increased slightly to 14.3 percent, IT costs per employee decreased by 0.9 percent to €25,000. Overall, IT costs represented 15.9 percent of administrative expenses—0.4 percentage points lower than in the previous year—reflecting the fact that non-IT administrative expenses grew faster than IT costs.

**Business Mix.** IT cost-to-income ratios continue to vary among business segments. (See Exhibit 1.) Corporate banking was already at the lower end in 2006 with an ITCIR of 7.3 percent, a level that fell to 6.8 percent in 2007. Retail banking, at the high end in 2006 with an ITCIR of 11.1 percent, saw that level rise to 11.4 percent in 2007, driven mainly by higher IT spending of 10.5 percent, as well as higher overall spending of 9.5 percent. The highest ITCIR shifted from retail banking in 2006 to the capital markets segment in 2007, where increased IT spending of 14.9 percent and higher overall spending of 15.5 percent—combined with an average revenue decline of 14.3 percent—resulted in an average ITCIR of 26.3 percent. The range of ITCIR among our survey participants was 6.9 percent at the low end and 92.4 at the high end. Such a range reflects the first signs of the financial crisis in terms of drastic revenue loss for certain banks and increased investment in new IT applications.

Moreover, once again, we 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.

In 2007, European banks invested heavily in developing new IT functionality, increasing their change-the-bank shares from 29.3 percent to 31 percent. (See Exhibit 2.) The capital markets segment posted the highest change-the-bank ratio, at 34.5 percent. Possible drivers for increased application-development budgets were positive business development and healthy revenues (until the effects of the crisis became evident). Also, the optimization and further standardization of IT infrastructure may have freed up supplementary funds for change-the-bank budgets. An additional driver may be the belief among some senior-management groups that investing in new core-banking IT systems is necessary to support competitiveness. In our view, current change-the-bank spending will need to be managed proactively through continuous project planning and prioritization, tight business cases for all large projects, and further optimization and standardization of application development processes.
### Exhibit 1. IT Cost-to-Income Ratios Vary Among Business Segments

**Key IT cost metrics, 2006–2007 (%)**

<table>
<thead>
<tr>
<th>Business Segment</th>
<th>Cost-to-income ratio</th>
<th>ITCIR</th>
<th>Share of IT cost</th>
<th>IT intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail Banking</td>
<td>42.4</td>
<td>59.4</td>
<td>14.4</td>
<td>19.6</td>
</tr>
<tr>
<td></td>
<td>80.9</td>
<td>13.1</td>
<td>11.9</td>
<td>39.1</td>
</tr>
<tr>
<td>Private Banking</td>
<td>41.7</td>
<td>58.0</td>
<td>9.2</td>
<td>15.8</td>
</tr>
<tr>
<td></td>
<td>83.5</td>
<td>10.1</td>
<td>13.0</td>
<td>21.7</td>
</tr>
<tr>
<td>Corporate Banking</td>
<td>29.6</td>
<td>48.5</td>
<td>6.8</td>
<td>15.5</td>
</tr>
<tr>
<td></td>
<td>86.6</td>
<td>7.3</td>
<td>14.0</td>
<td>25.7</td>
</tr>
<tr>
<td>Capital Markets</td>
<td>34.3</td>
<td>64.9</td>
<td>6.9</td>
<td>18.2</td>
</tr>
<tr>
<td></td>
<td>155.8</td>
<td>9.2</td>
<td>14.3</td>
<td>21.1</td>
</tr>
<tr>
<td>Asset Management</td>
<td>30.4</td>
<td>47.9</td>
<td>7.2</td>
<td>12.4</td>
</tr>
<tr>
<td></td>
<td>71.2</td>
<td>10.5</td>
<td>11.7</td>
<td>23.3</td>
</tr>
<tr>
<td>EU overall average</td>
<td>36.5</td>
<td>55.8</td>
<td>8.8</td>
<td>14.3</td>
</tr>
<tr>
<td></td>
<td>75.8</td>
<td>14.3</td>
<td>9.5</td>
<td>20.3</td>
</tr>
</tbody>
</table>

*Source: BCG’s European IT Benchmarking in Banking, 2008.*

*Note: Figures represent averages of a subset of the total participant group.*

### Exhibit 2. Change-the-Bank Spending Continued to Increase in 2007

**IT costs by functional area**

<table>
<thead>
<tr>
<th>Year</th>
<th>Should/Could Projects</th>
<th>Must Projects</th>
<th>IT Management</th>
<th>Application Maintenance</th>
<th>Desktop Services and Local Support</th>
<th>Change-the-Bank Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>16.0</td>
<td>10.0</td>
<td>14.0</td>
<td>4.3</td>
<td>41.6</td>
<td>3.2</td>
</tr>
<tr>
<td>2004</td>
<td>15.0</td>
<td>17.0</td>
<td>12.0</td>
<td>17.7</td>
<td>43.1</td>
<td>3.3</td>
</tr>
<tr>
<td>2005</td>
<td>14.0</td>
<td>10.4</td>
<td>10.4</td>
<td>11.7</td>
<td>48.8</td>
<td>3.2</td>
</tr>
<tr>
<td>2006</td>
<td>20.9</td>
<td>11.7</td>
<td>12.1</td>
<td>11.4</td>
<td>39.4</td>
<td>3.1</td>
</tr>
<tr>
<td>2007</td>
<td>38.4</td>
<td>11.9</td>
<td>4.1</td>
<td>4.1</td>
<td>38.4</td>
<td>3.2</td>
</tr>
</tbody>
</table>

**IT costs by specific cost type**

<table>
<thead>
<tr>
<th>Year</th>
<th>Voice Communication</th>
<th>Other Materials</th>
<th>Network</th>
<th>Software</th>
<th>Hardware</th>
<th>Outsourcing</th>
<th>External Employees</th>
<th>Internal Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>9.7</td>
<td>1.1</td>
<td>17.1</td>
<td>15.3</td>
<td>3.5</td>
<td>3.3</td>
<td>15.7</td>
<td>13.7</td>
</tr>
<tr>
<td>2004</td>
<td>9.6</td>
<td>1.5</td>
<td>16.7</td>
<td>15.9</td>
<td>3.6</td>
<td>4.7</td>
<td>14.4</td>
<td>15.4</td>
</tr>
<tr>
<td>2005</td>
<td>10.5</td>
<td>1.5</td>
<td>12.7</td>
<td>15.9</td>
<td>3.5</td>
<td>4.7</td>
<td>14.1</td>
<td>15.8</td>
</tr>
<tr>
<td>2006</td>
<td>7.7</td>
<td>1.0</td>
<td>12.8</td>
<td>15.9</td>
<td>3.5</td>
<td>4.7</td>
<td>18.0</td>
<td>16.1</td>
</tr>
<tr>
<td>2007</td>
<td>5.4</td>
<td>1.0</td>
<td>24.7</td>
<td>25.6</td>
<td>3.5</td>
<td>4.7</td>
<td>18.0</td>
<td>16.1</td>
</tr>
</tbody>
</table>


*Note: Some columns may not add up to 100 because of rounding. In 2006 and 2007, voice communication was included in the total IT cost view.*
In this year’s survey, for the first time, we conducted extensive research into IT infrastructure spending in order to identify the major cost drivers in run-the-bank spending. Initial results reveal considerable scale effects in host and server management. A significant driver of costs in this area is the number of Unix servers that a bank has. Windows systems account for costs of about €2,500 per central processing unit—about one-third as expensive as Unix servers. Scale curves in annual mainframe cost per MIPS and the cost of disk storage were similar to those reported in our annual IT benchmarking survey of German insurance companies.

We also found large differences in cost per call by internal users to internal help desks. These costs are driven by the degree of capacity utilization, the mixture of requests (such as first, second, and third level), and service-level agreements. The average annual cost per end-user PC is about €1,300.

**Global Reach.** The number and size of the markets in which banks have an active presence have a significant impact on IT cost metrics. In 2007, changes in ITCIR for global players ranged from –1.8 percent to 9 percent, whereas the spread for regional players ranged from –16 percent to 53 percent. Global players seemed to benefit more from scale effects and wider options in terms of factor costs than their regional counterparts. Global players also had relatively lower production costs but somewhat higher infrastructure costs.

There were also differences in personnel costs depending on the geographic scope of the bank. While the average cost per internal IT employee for European banks increased by €4,000 to €84,000 in 2007, there was a wide range among survey participants—from €47,000 to €108,000. Within this range, regional European banks had a lower average rate—€79,900 per internal IT employee—compared with €96,100 for global institutions.

**The Internal IT Landscape.** Banks’ internal IT landscapes also changed shape significantly in 2007. The use of project solutions—heavily customized commercial software or modified software licensed from another bank—increased by 27.3 percent, at the expense of standard commercial software, whose use fell by 32.4 percent. In general, commercial software does not fulfill business requirements, particularly in the treasury and securities areas. Therefore, banks either replaced standard software with a project solution or developed a new system on their own. In many cases, banks customized standard packages to such a degree that the original software provider did not support maintenance.

On average, our survey participants increased their degree of IT outsourcing in 2007 to 15.8 percent of total IT costs. It is worth mentioning that the gap between global and regional banks is narrowing, with global banks’ average degree of outsourcing just marginally ahead of that of regional banks. Among European banks, the degree of IT outsourcing ranged from 2.2 percent to 41.3 percent of total IT costs. The average outsourcing of desktop services and local support rose from 9.7 percent to 19 percent of total IT costs, whereas outsourcing of application development climbed from 7.5 percent to 13.8 percent. Outsourcing of production and operations increased from 16.7 percent to 22.5 percent of total IT costs.

Clearly, outsourcing is widely practiced by many banks now, and it is generally used as a measure to reduce IT costs. Although outsourcing does not directly translate into lower IT cost ratios, it can slow a general IT cost increase and even contribute to quality improvement if managed properly. The overall trend appears to be one of partial, rather than full-function, IT outsourcing. In addition, partial offshoring is increasing mainly in the area of IT production and operations. Overall, 70 percent of desktop service functions are now at least partly outsourced, and 65 percent of application development is partly off-shored. Selective outsourcing is the dominant model.

**Business and Operating Models.** Banks must adjust their business models to counter the effects of the financial crisis. And the shape of new business models will determine the shape of updated, fully aligned operating models in which “simple” optimization is not enough. The target mix of business segments will determine the focal points of the operating model.

Yet circumstances differ from segment to segment. For example, retail banking is mainly about standardization and industrialization—emphasizing lean processes, seamless interfaces with different business activities, automation, low maintenance costs, and scorecards and efficient credit processes to limit risk.
The capital markets business is chiefly about product innovation, time to market, and risk management—
involving flexibility in product development, the mirroring of front- and back-office structures, upgraded
risk-management methodologies and systems, and IT integration across asset classes.

Operating-model excellence follows three steps: designing flexibility according to business segment,
adopting high-quality evaluation and prioritization processes, and, finally, effectively implementing the
model. What is more, changes to the operating model may have a significant effect on the process and the
IT landscape. Since large investments in IT may be necessary, a comprehensive business case is essen-
tial—one that considers segment-specific measures, interdependencies, and tradeoffs from a holistic
perspective. Banks need to establish the necessary capabilities, processes, tools, and policies, and align
their processes and culture with the target operating model. Adjustments to operating models may be
complex, but they can represent a major element of competitive advantage.

Comparing the current financial crisis with the economic downturn at the beginning of the decade, we
found that IT departments in commercial banking were better positioned in 2007 than they were in 2000.
We also found that significant IT cost savings are achievable only by reducing business complexity—such
as in the number of products and locations. Established IT processes need to be extended beyond commer-
cial banking into investment banking, for example. Exceptions regarding platforms, functionality, and
customization need to be limited.

IT Management’s Self-Assessment Is Less Favorable Than Internal Users’
Evaluation of IT Quality

As in previous years, we investigated IT user satisfaction along several dimensions. In 2007, end users
were moderately satisfied with their IT departments, giving the highest ratings to IT investment and
priorities, as well as to applications availability. But, as in 2006, transparency in cost allocation was seen
as a major shortcoming. In 2007, ratings were slightly better than in 2006 when it came to the overall
quality of IT and slightly worse regarding the functionality of mission-critical applications and responsive-
ness, and problem-solving skills.

In addition, as in last year’s survey, we asked IT departments to assess the quality of their own manage-
ment practices in nine key IT areas, including business and IT strategy alignment and IT governance. In
general, the self-assessment of IT managers was less favorable than it was in 2006. In particular, IT
investment and priorities suffered a major downgrade. Moreover, the ratings of business and IT strategy
alignment and IT governance decreased significantly.

Generally speaking, in 2007, IT end users rated the quality of their bank’s IT services higher than did IT
managers themselves. (See Exhibit 3.) When it came to IT investment and priorities, IT end users were
much more satisfied than their managers. In fact, the only category that IT end users rated lower than IT
managers by a wide margin was IT cost management. There is clearly high potential for improvement in
this area and in subtopics such as transparency (regarding both cost-allocation methodology and prices
per usage and service).

In sum, European banks benefited from the overall positive economic situation in 2007—that is, until
the financial crisis began to set in—and continued to grow their revenues. Nonetheless, growth slowed
compared with previous years, mainly as a result of a sharp decline in capital markets revenues. With IT
spending continuing and cost cutting still a relatively low priority for most banks, both overall cost-to-in-
come ratios and IT cost-to-income ratios increased for the first time in quite a few years.

Additional IT cost metrics, which have generally followed a declining pattern for several years, crept up in
2007. Although IT spending has increased, the fact that non-IT expenses have grown even faster indicates
that banks have had other priorities in their quests to stay competitive. Higher IT spending does not
translate directly into lower non-IT costs.
Several trends are having an impact on overall IT cost development. First, banks have kept investing in developing new IT functionality, thus increasing change-the-bank costs. Banks’ slight reduction in run-the-bank spending may call for some new investment to reduce IT landscape complexity and redundancies, and to retire legacy systems. Second, internal IT landscapes have shifted as project solutions have gained ground at the expense of standard commercial software. Commercial solutions do not adequately fulfill business requirements. Therefore, many banks have either replaced standard software with project solutions or customized standard packages. Third, outsourcing is clearly practiced by many banks. Although outsourcing does not translate directly into lower IT cost ratios, it can slow a general IT cost increase and even contribute to quality improvement if properly managed.

Business mix and global reach significantly influence IT cost metrics. In some banks, the capital markets division saw a dramatic revenue loss in 2007 while IT spending generally continued to increase. This translated into an almost two-and-a-half-fold increase in average ITCIR and an extremely wide ITCIR spread. Global players continue to be the forerunners in the investment cycle. They benefit more from scale effects and wider options in factor costs than do their local counterparts. While global players have higher IT-personnel costs, mainly as a result of locating their headquarters in high-cost countries, their overall ITCIR is consistently lower and their cost development more homogeneous than that of local players.

Preliminary results from our deep research into IT infrastructure costs—which were similar to the results of our research into German insurance companies—indicate that there are economies of scale not only for mainframe costs but also for midrange and server costs. There are significant differences across regions and banks in terms of cost per call to internal help desks.

The financial crisis is forcing banks to adjust their business models and, as a consequence, to define new operating models. The mix and prioritization of business segments determines the target operating model. Changes to the operating model will probably result in significant investments in IT to align the underlying processes with the IT landscape. Therefore, a comprehensive business case is essential for major IT projects. Operating-model excellence is a growing factor in achieving competitive advantage.

IT management personnel rated themselves less favorably than they did last year. Also, IT management’s
self-assessment of IT quality was less favorable than that of internal users. One striking exception was in the area of IT cost management, which was rated as the best category by management and the worst by end users. Transparency in cost allocation, in terms of both methodology and prices, remains a major issue for European banks.

**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 previous years’ surveys, a bank had to be a European institution that 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.

Nineteen leading European banks from eight countries provided data for this study. Once again, roughly half of the top 20 European banks in terms of market capitalization contributed. The sample size and mix are thus closely comparable with last year’s study.

In preparing this report, we used actual data for 2007 and earlier—all provided by the participating banks. Furthermore, we used 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, functional- and business-segment averages necessarily involve data from only those banks that provided a complete functional or segment-specific split.

In this study, IT cost values and ratios from 2006 and later are based on IT costs, including voice communication costs—which contribute to total IT costs by up to 15 percent (on average, 4.7 percent). Benchmarks used in this study refer to the new methodology unless otherwise stated. Because of this, IT cost ratios and splits are not directly comparable with those of previous studies.
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