

# Back to the Future

*An historical comparison reveals just how much value strategic technology investment can add to business performance.*

**T**O BEST UNDERSTAND the dynamics of the 2010 technology economy, an appropriate historical perspective is needed, and 2006 is an excellent economic reference point.



There's one more piece to add to the technology economics "puzzle": In 2006 the processing cost of the 507,000 MIPS (millions of instructions per second) and 209,000 servers was \$4.784 billion. In 2010 the processing cost of 848,000 MIPS and 368,000 servers will be \$5.254 billion, or a mere 8.9 percent more than 2006 costs for perhaps 70 percent more computing power.

While the 2006 U.S. gross domestic product (GDP) was \$13 trillion, final 2010 GDP will struggle to hit \$14.8 trillion. Over that same period, China's GDP grew from US\$2.7 trillion to more than US\$5 trillion. Further, U.S. unemployment in 2006 was 4.6 percent; today it is north of 9.8 percent.

Meanwhile, if you create a market basket of top financial services companies — Bank of America, Barclays, Bear Stearns (a real force in 2006), Citi, Credit Suisse, Lehman Brothers (it still existed in 2006), JPMorgan Chase, Morgan Stanley, UBS and Washington Mutual (WaMu was there in 2006, too) — you get a very revealing financial services industry perspective (*see below; all figures are based on first-half 2010 data annualized*):

### Evidence of Technology Value?

Look at the high-level metrics pattern (*opposite page, top*). Total Technology Expense as a percent of Revenue went down (though just a little); as a percent of Non-Interest Expense it went up; and as a percent of Gross Income it also went down. This is the typical technology leverage pattern: technology expense appears flat or lower versus revenue, it rises relative to business operating expense as more gets automated and operating expense drops, and profitability rises.

However, to get the full picture, one also needs to look at the massive change in computer power needed to make this happen and the concurrent increase in technology productivity/economic efficiency required so that such increases in computing power don't offset or override the improvement in business performance — 70 percent more computing power was available in 2010 at just about 9 percent more cost, with technology expense per employee itself rising just 17 percent while income per employee rose 26.7 percent. Meanwhile, the number of employees stayed flat while business grew 19.4 percent. This is an astounding set of interactions.

	2006	2010	Change
Total Net Revenue	\$399 billion	\$475 billion	Up 19.2 percent
Total Non-Interest Expense	\$238 billion	\$271 billion	Up 14.1 percent
Total Employees	1.1 million	1.1 million	No change
Revenue per Employee	\$363,576	\$432,021	TK percent
Gross Income per Employee	\$146,120	\$185,089	Up 26.7 percent
Total Technology Expense	\$33.6 billion	\$39.3 billion	Up 17 percent
Technology Expense per Employee	\$30,533	\$35,709	Up 17 percent
Total Mainframe MIPS	507,000	848,000	Up 67.3 percent
Total Physical Servers	209,000	368,000	Up 76 percent

## Associated IT Metrics

	2006	2010	Change
Total Technology Expense as a percent of Revenue	8.4 percent	8.3 percent	Down 1.8 percent
Total Technology Expense as a percent of Non Interest Expense	12.9 percent	13.1 percent	Up 2.5 percent
Total Technology Expense as a percent of Gross Income	20.9 percent	19.3 percent	Down 7.7 percent
MIPS per \$1M Revenue	1.27	1.78	Up 40.4 percent
Servers per \$1M Revenue	.52	.77	Up 47.8 percent

But it also is fragile. If, for example, those companies with large investment bank contributions to performance repeated their tepid third-quarter performance in the final quarter of 2010, then we will see a jump in Total Technology Expense for the year to 8.9 percent from 8.3 percent of Revenue and a similar jump from 19.3 percent on Gross Income to 23.1 percent, while Gross Income per employee falls to \$154,000 from \$185,000 — 5.8 percent higher than in 2006 versus 26.7 percent higher if revenue maintained its first-half 2010 rate.

But even in this worst-case scenario, technology economic dynamics are visible. In fact, it is likely true that the leverage financial services institutions eke out from their IT investments have served the sector well during these uncertain economic times.

### Approaching Breakthrough Performance

In 2006, Rubin Worldwide launched the Technology Leadership Index (TLI) with the purpose of monitoring how technology creates value and assessing whether there is a link between business performance and IT investment. From January 2006 to October 2010, the TLI has consistently outperformed the Standard & Poor, and since the beginning of 2010, it has begun to surpass the Dow Jones Industrial Average. Those results highlight the importance of strategic technology investment on business performance and imply that technology leaders have overcome the hardships of the economic crisis faster than less-technology savvy competitors and strengthened their firms' opportunities in the market.

In addition, it is clear that companies are learning how to integrate and tune their technology expense and business operating expense structures, particularly in the area of infrastructure costs. And there are significant breakthroughs apparent heading into 2011:

- One major firm has attained breakthrough economics — its infrastructure is performing as well as any competitors at less than 3 percent of revenue (which is worth approximately \$600 million a year in savings that, in turn, can be invested in development).
- A handful of companies now have achieved bidirectional transparency in that business and IT both share a common view of how business products drive the consumption of IT resources while the IT teams have a parallel view from their platforms

back to the business and understand the "IT cost of goods."

- "Technology Commons" — pools of non-differentiating resources shared by firms — are taking shape as companies avail themselves of external services to attain economies of scale while increasing their internal strategy focus.

- "IT Strategy War Rooms," complete with integrated models of business change, IT resource loads and costs, talent, risk parameters, and geographic factors (location strategy) are being implemented as predictive tools.

- New portfolio management models beyond "Run the Bank/Build the Bank" (RTB/BTB) are being adopted as an enabler of managing from the perspective of Return on IT Investment.
- Benchmarking has been transformed as a forensic tool to seek opportunities for continuous optimization of costs and investment.

### The Implications

When I started this column early in late 2009, one of my opening statements was that "those companies that can understand the workings of technology economics and take charge of their own internal technology economy microclimates today (and

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get it right) by mastering the balance of expense and value before such learnings are documented and taught in the standard business school curricula will be in the best position to leverage technology for extreme competitive advantage."

I never expected to see such clear evidence of this phenomenon in just a year. But the numbers presented herein tell the story, and the evidence is clear.

Beyond the evidence, however, the competitive implications are far-reaching. Peter Senge, the founding chairperson of the Society for Organizational Learning, once said, "The only sustainable competitive advantage is to be able to learn faster than your competitors." 2011 is the year you need to master your technology economy or pay the very dear price of being left behind. ■

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