"If I can see immediately that my sales trend is changing and adjust costs immediately, by firing people or not launching a new initiative, that's a big advantage," Mr. Schulman said.

The trend might also help cure the fuzzy accounting methodology that has gripped some corporations in recent years, according to Lauren Jones Shu, research director for GartnerG2, the business research division of the Gartner consulting company. "This will definitely make it harder to cheat," she said.

One PricewaterhouseCoopers client, a retailer that Mr. Schulman would not identify, has built a cockpit that presents not just the key business data, but also the reasons behind the numbers. If sales at a store crash on a day when half of the salespeople fail to show up for work, the system will make the connection between the two and indicate as much to company executives.

Most companies opt to deliver the data via intranets, so managers can see the data wherever they log on, Mr. Schulman said. Others, perhaps yearning for a NASA ambience, opt for a control-room environment, where different monitors display different fiscal measurements.

Whatever the approach, the display is actually the easiest part of creating the cockpits. The first step is automating the data-collection process, so that a sale, invoice or manufacturing glitch is instantly logged in a computer system. Next, companies must integrate the data from various business units and their hybrid technology systems. Finally, executives must agree on a handful of key measures to track in the dashboard, and their definitions.

The latter point can be particularly vexing for bigger companies with many different divisions — each with an entrenched view on how to define something as simple as revenue. "Is gross revenue the most meaningful measure?" Mr. Schulman said. "Net revenue?"

To illustrate his point, Mr. Schulman told of a telecommunications client with two divisions that followed different definitions of revenue. While each hit their respective revenue targets, the company — which he would not name — missed its overall target. "So it's critical to choose one that's right for the company and stay consistent," he said.

Honeywell, which manufactures aircraft cockpits, among other things, favors the "digital dashboard" terminology, according to Gary Bird, the company's vice president for digitization. Mr. Bird said it put more emphasis on digital dashboards starting last year, when it pressed to get "weekly and daily visibility of data.

"As we've been able to get more data on more of a real-time basis, people can't deal with the amount of information that's generated, so it's made sense to change to more graphic ways to visualize it," Mr. Bird said.

That can engender a cultural shift inside a company, he added, since managers and their employees must become accustomed to faster decisions.

"There's definitely a mindset shift," Mr. Bird said. "I have certain orthodoxies about what's acceptable in terms of how fast to make decisions, and I need to rethink those.

"But at least you can rethink the time cycles based on what's the right cycle for you, versus `I just can't get the information,' or `I'm waiting for someone to fax it,' " Mr. Bird said.

Mr. Bird would not disclose the costs of the effort, but he said the dashboards had helped the company stay on pace with its goal of cutting $150 million in costs by digitizing processes and thereby improving efficiency.

Mr. Schulman, of PricewaterhouseCoopers, said the process can cost up to $50 million for a large company, "but that's achievable in $2 million or $3 million increments," where each step delivers a set of key measurements the company can track. If tackled all at once, the process can be completed in less than two years, he said.

G.E., which began this effort about two years ago, and which like Honeywell has taken a more incremental approach, last month put the capstone on its digital cockpit project. Dubbed the corporate cockpit, it charts the top-level performance of G.E.'s 11 primary business units, with numbers culled from each unit's individual cockpit. Only 45 of the top G.E. executives are authorized to see it.

The front page includes nine different categories — including headcount, sales, orders and pricing, among others — and the numbers that correspond to each unit. There are also tabs at the top of the page that display a page of nine graphs showing, for instance, NBC's ratings, the number of delinquent credit card accounts within G.E.'s card services division, and the price of benzene, a critical commodity for the plastics division.

"With this, Jeff and the C.E.O.'s can get together and, without setting up a formal agenda, sit down and look around and take different paths in their discussions," said Mr. Biagini, referring to Jeffrey R. Immelt, G.E.'s chief executive. "It allows flexibility we haven't had in the past, and it absolutely allows faster decision times."

Gary Reiner, G.E.'s chief information officer, said the corporate cockpit had also helped reduce the number of finance people the company needs to pull its data together. "It's sort of a home run tool for us," he said.

And digital cockpits could eventually become a useful tool for financial regulators.

"Before, executives could hide behind a veil of not having the data available," said Ms. Shu, at GartnerG2. "Now that they have real-time information at their fingertips, that will make them more accountable in the eyes of the legal system."

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http://www.nytimes.com/2002/07/29/technology/29ECOM.html?ex=1028963177&ei=1&en=652f3c955961c5ff