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Hot Skills, Cold Skills

Stacy Collett

July 17, 2006 (Computerworld) The most sought-after corporate IT workers in 2010 may be those with no deep-seated technical skills at all. The nuts-and-bolts programming and easy-to-document support jobs will have all gone to third-party providers in the U.S. or abroad. Instead, IT departments will be populated with "versatilists" -- those with a technology background who also know the business sector inside and out, can architect and carry out IT plans that will add business value, and can cultivate relationships both inside and outside the company.

That's the general consensus of three research groups that have studied the IT workforce landscape for 2010 -- the year that marks the culmination of the decade of the versatile workforce. What's driving these changes? Several culprits include changes in consumer behavior, an increase in corporate mergers and acquisitions, outsourcing, the proliferation of mobile devices and growth in stored data.

What's more, the skills required to land these future technical roles will be honed outside of IT. Some of these skills will come from artistic talents, math excellence or even a knack for public speaking -- producing a combination of skills not commonly seen in the IT realm.

On the edges of this new world, expertise in areas such as financial engineering, technology and mathematics will come together to form the next round of imaginative tools and technologies. Google Inc., eBay Inc. and Yahoo Inc. are already hiring math, financial analysis, engineering and technology gurus who will devise imaginative algorithms to fulfill users' online needs. And the National Academy of Sciences has identified a budding area of expertise that combines technology capabilities with artistic and creative skills, such as those found in computer gaming.



Diane Morello, an analyst at Gartner Inc.

Closer to home, "the most effective workforce will be outward-focused, business-driven competency centers," says Diane Morello, an analyst at Gartner Inc. and author of the report "IT Professional Outlook."

"They might be competency centers formed around mergers and acquisitions," she explains. "People in IT might be involved in information integration and systems integration, customer service or some really smart ways where companies can leverage scarce and high-value talent that tend to get dismantled at the end of every project. People will be geographically distributed -- so [they'd] better be adaptable and [able to] work with people on teams that [they] don't know." Project management and application development skills -- "whether for service providers, software developers or IT organizations -- are characteristics that will be absolute" in 2010, Morello adds.

Also, projects will be multisourced. "You'll be working with people from different types of channels," Morello says. "That will raise opportunities in relationships and sourcing management" and require IT workers to think about process design and management.

By 2010, six out of 10 people affiliated with IT will assume business-facing roles, according to Gartner. What's more, IT organizations in midsize and large companies will be at least 30% smaller than they were in 2005. Gartner also predicts that by 2010, 10% to 15% of IT professionals will leave their IT occupations as a result of the automation of tasks or because of a lack of interest in the sector.



David Foote, CEO and chief research officer at Foote Partners LLC

"For my money, the hot jobs in 2010 will be these enabler jobs: business enterprise architects, business technologists, systems analysts and project managers," says David Foote, CEO and chief research officer of Foote Partners LLC, an IT management consultancy and workforce research firm in New Caanan, Conn. "If I were in IT, I would be in one of these jobs in the next five years. A lot of people can't because they're pure technologists. But there are some pretty safe bets for them both inside and outside of the service industry."



Kate Kaiser, an associate professor at Marquette University

"There is much more emphasis on the business domain and on project management skills than on the technical skills," says Kate Kaiser, an associate professor at Marquette University in Milwaukee. In September 2005, Kaiser led a Society for Information Management (SIM) study of 104 CIOs to determine their skills needs through 2008. She expects the top 10 skills identified to remain in the top 12 by 2010.

"It's not that you don't need technical skills, but there's much more of a need for the business skills, the more rounded skills," she notes.

IT professionals who will survive and perhaps thrive in 2010 will expand their knowledge base and stretch beyond their comfort zones. Those who don't will find job opportunities in niche areas. With that in mind, Morello, Foote and Kaiser offer some advice.

Business Domain

HOT

- Enterprise architecture
- Project leadership
- Business process re-engineering
- Project planning, budgeting and scheduling
- Third-party provider managers

Big corporations are getting even bigger through mergers and acquisitions. But merging two companies requires more than just technical and systems integration. While many enterprises have shown that they can successfully integrate systems, "they're lousy at integrating cultures," Foote says. Enterprise architects in the areas of technology, security and data will play key roles in 2010.

Companies like Microsoft Corp. and IBM already know the gargantuan architecture tasks awaiting them in 2010 and are hiring expert- and guru-level enterprise architects. "They're saying, 'There's a level of architecture that if we don't have it, we're [sunk],'" Foote adds.

Gartner asked hundreds of CIOs and symposium attendees which domains they believe will experience the greatest growth and decline between now and 2010. "Unanimously, the areas of greatest growth were in both process and relationships," Morello says.

Outsourcing plays an important role in the growth of skills in the business domain. If companies rely on third-party providers, they must invest in staffers who can manage those relationships.

Technology Infrastructure and Services

HOT

- Systems analysis
- Systems design
- Network design
- Systems auditing

COLD

- Programming
- Routine coding
- Systems testing
- Support and help desk
- Operations -- server hosting, telecommunications, operating systems

According to respondents to the Gartner survey, the skills that will have the steepest decline in 2010 will be in technology infrastructure and service jobs -- such as programming and operations work. Those roles will go overseas or more likely be automated.

"The more that [a task] can get codified or changed into explicit instructions or documentation, the more likely it can get transferred. The more likely it can be transferred, the more likely someone will come along and will develop tools to reduce even further the number of people required to do the job," Morello says. Kaiser says that in the SIM study,

keeping systems design and analysis skills in-house in the next five years were considered critical, yet those tasks are frequently outsourced. The reason respondents gave for outsourcing these skills included meeting project needs and enabling flexible staffing.

Systems auditors will grow in importance because "compliance isn't going away -- it's getting more intense," Foote says.

Security

HOT

- IT security planning and management

COLD

- Continuity and recovery

As news of data security breaches at high-profile companies keeps coming, so too does the need for security planning and management skills. IT security is one of the top 10 skills that will become "newly important" to companies in the next five years, according to Kaiser.

Companies employ 1.4 million IT security professionals worldwide, according to a January study by IDC on security workforce trends. By 2010, that number will reach 2 million, an increase of almost 30%, the researcher said. U.S. companies will also increase spending on information security training by 16.4% annually through 2009. Meanwhile, skills associated with data continuity and recovery will be relegated to third-party providers.

Storage

HOT

- Storage administrator

A company with an enterprise server strategy needs an enterprise storage strategy and the skills to deploy it. "We've seen the prices of storage administrators with SAN specialization rise. You can't find these people. They're heavily in demand," Foote says.

A storage-area network routes data to storage devices according to rules that administrators set up. It overcomes geographic limitations. So for global companies in 2010, "it's pretty obvious that the administration of storage will be a huge issue going forward simply because of the amount of data we have to deal with [and] the fact that we're looking at geographically broad markets, [and] we're architecting systems that will be relying on utility computing, open-source and managed services," Foote says.

Application Development

HOT

- Customer-facing application development

COLD

- Legacy skills

By 2010, applications will become commodities delivered by external service providers. Internal development won't be dead, though -- it will just be done differently in 2010, Foote says. The challenge will be selecting packages and tailoring them to what you need. "Code-writing disappears in this world, unless it's code-writing in customer-facing applications that offer strategic advantage," he adds.

Internet

HOT

- Customer-facing Web application systems
- Artificial intelligence
- Data mining
- Data warehousing

In the online banking industry, businesses want to manage all of their customers' money -- from mortgages to school loans to retirement accounts. To be successful in 2010, they must create Web sites that are user-friendly, with artificial intelligence, data mining and data warehousing capabilities, Foote says.

The technology is part of those companies' highly competitive marketing approach. "If you want to work in IT, you want to work in Web application systems. But you'd better also really know the customer, because chances are your competitors have that type of talent," Foote explains. This kind of talent allows IT staffs to do more than simply build things; they can also communicate with co-workers who spend a lot of time with customers or connect with the customers themselves to quickly make changes to process.

"This shaves a lot of time off of build cycles," which usually take three to six months, Foote says. "Rapid applications development and extreme programming are very high-paying skills. But it really fosters agility and flexibility. What's more biz-enabling than reducing a product cycle?"

Business Intelligence

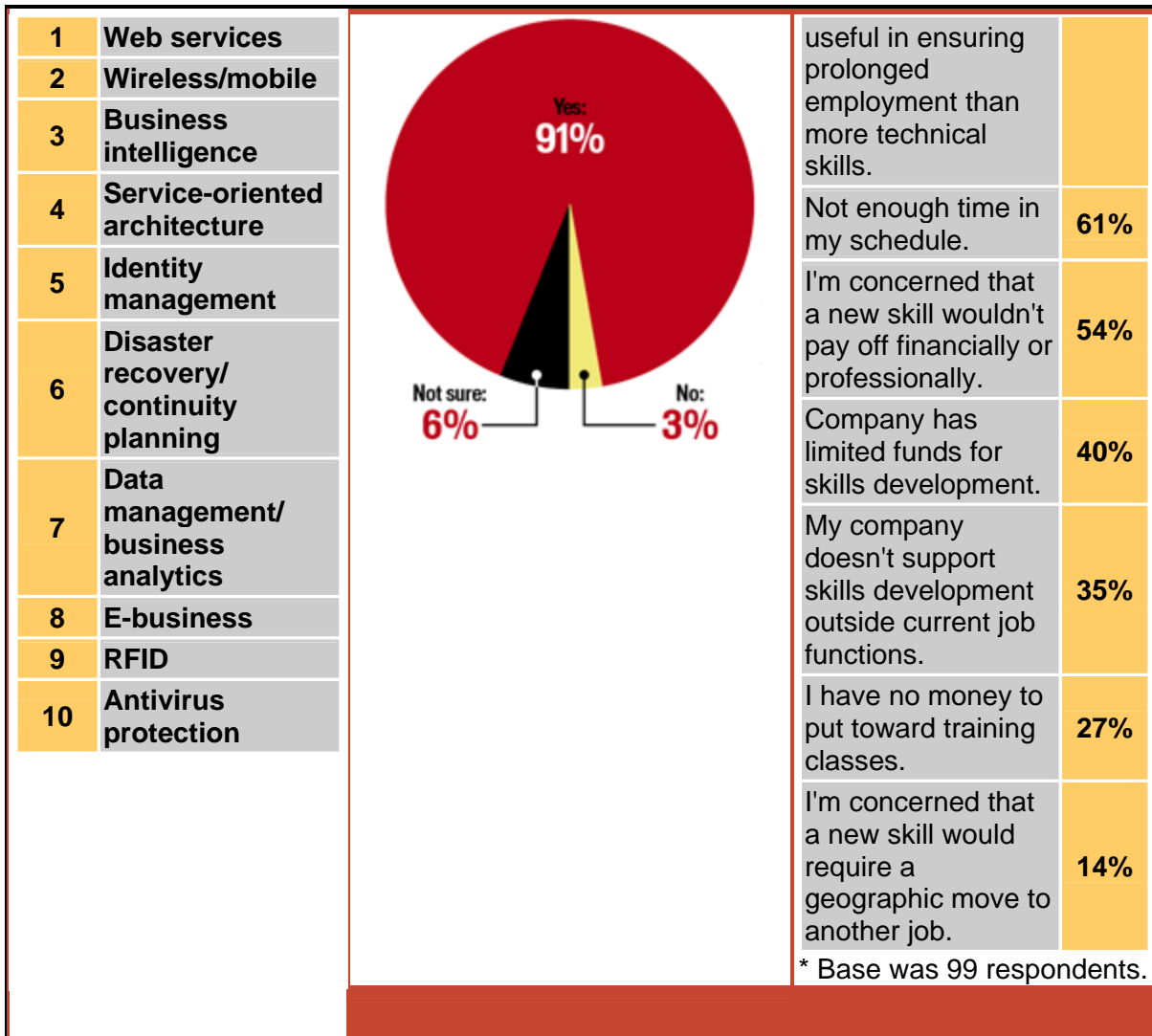
HOT

- Business intelligence
- Data warehousing
- Data mining

Foote's mantra for the coming decade: If you think the marketplace is competitive now, wait until 2010. A leveled global playing field, innovation and the availability of technology to make business execution easy will make hot skills must-haves for competitive companies.

<p>Where Will the Jobs Be? Which area of IT do you expect will experience the most growth in jobs in the next five years?</p>	<p>Ready to Adapt Would you be willing to learn a new technical skill to help ensure prolonged employment?</p>	<p>If you answered no or not sure*, what's holding you back from acquiring new technical skills?</p>
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Business skills would be more **63%**



SOURCE: Exclusive Computerworld survey of 1,137 IT professionals, May 2006. Respondents could choose all answers that applied.

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