IT Investing for High Performance:
A Global Survey of CIOs

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The Five "I"s

In designing our survey and reporting its results, we have focused on five facets of IT that must be mastered in order to improve IT performance: industrialization, innovation, information, integration and infrastructure. Accenture calls these functions the Five "I"s. Each facet is substantial enough to merit investigation as a stand-alone subject. In this initial report, we outline the survey findings section by section, focusing on subjects of intense current interest.

The Five "I"s are interrelated, of course, and as we build up a body of comparative survey data, we are looking to capture the correlations of CIO responses between areas. Importantly, this report represents the first of what Accenture intends as a series, tied to an ongoing research effort. Future reports may take up the specific ways that the Five "I"s relate to each other. Other reports will analyze regional results and look at comparative industry patterns.

In launching this initiative, Accenture is well aware that senior information technology officers are among the most surveyed audiences in the world, and it is our objective to extract compelling, new and actionable insight that goes beyond familiar conclusions.

About High Performance Business

How is it that a select number of companies and government organizations consistently outperform their peers and deliver value to stakeholders, regardless of circumstances? Accenture's hypothesis is that these enterprises, seemingly so different in external detail, actually share common underlying behaviors and characteristics that can be identified, measured and replicated. Accenture's High Performance Business initiative is dedicated to investigating this premise and applying what we learn to help clients become high-performance organizations.

About Accenture

Accenture is a global management consulting, technology services and outsourcing company. Committed to delivering innovation, Accenture collaborates with its clients to help them become high-performance businesses and governments. With deep industry and business process expertise, broad global resources and a proven track record, Accenture can mobilize the right people, skills and technologies to help clients improve their performance. With more than 110,000 people in 48 countries, the company generated net revenues of US$13.67 billion for the fiscal year ended Aug. 31, 2004. Its home page is www.accenture.com.

Executive summary:

When spending is not investing

Last year, when Accenture first considered a global research program on IT performance, we were impressed by the broad-based interest in IT spending. Information technology has unquestionably established itself as a force in the economy and equity markets. In the United States, technology comprises more than 15 percent of the market capitalization of the S&P 500, and approaches 20 percent when technology-enabled business services are included. The technology equipment and software sector contributed 16 percent of the growth in the US economy in the last 10 years. Globally, information technology and communications spending exceeds $2.8 trillion and is nearly 7 percent of global Gross Domestic Product (GDP).

As impressive as this growth and influence has been, we believe an important finding from our research is that spending is not necessarily investing. Yet sustaining the right level of investing is critical to maintaining both business and IT productivity. Just as investors have taken note of earnings quality, so too must we examine the quality of IT spending.

As the installed base of technology grows, our research suggests that IT spending surges have less to do with forward investing than with replacement cycles. Specifically, we believe the IT investment surge in Q4 2000 resulted in an echo replacement cycle in Q3 and Q4 2003, driven mainly by pent-up demand for equipment replacement. This replacement activity is now declining. We are watching these changes in the nature of IT activity with keen interest, with a view to differentiating between significant structural shifts in investing and normal cyclical trends.

Accenture surveyed more than 300 organizations globally using 33 proprietary indicators of high, average and low performance in managing IT. From the perspective of quality of spending, we found some stark differences among the three groups. First, high-performing IT organizations spend significantly less time maintaining and fixing systems and significantly more time building new systems. High performers, on average, spent 40 percent more time building and integrating systems than low performers. Within that portion of their time, high performers committed 43 percent of their new project budgets to boosting business productivity, versus a 24 percent commitment from low performers.

The average and low performers are caught in an austerity trap. This trap is characterized by an inability to break out of a cycle where underinvesting to reduce costs in the short term increases the percentage of time required to maintain and fix legacy systems in the long term. This is because older systems cost more to maintain and require more effort to integrate with newer systems. As a total percentage of time spent on applications, the low-performer group in our survey spent, on average, 48 percent of their time maintaining and fixing legacy systems, where the high-performer group spent, on average, 35 percent of their total time on the same activities. Unfortunately, we believe the situation is getting worse. In meeting compliance needs and merging systems during a record year for mergers and acquisitions, CIOs are telling us they have between three to four times more IT work than incremental money.

What's holding organizations back?

Why aren't more organizations investing? Companies have record levels of cash on their balance sheets and are operating with the lowest interest rates in years. One specific impediment is the lack of predictability and execution. A heart replacement procedure today can be conducted with a 95 percent success rate. Now consider the contrast: IT projects, on average, come in at a 29 percent success rate. The average cost overrun for projects is 56 percent, and the average schedule delay is 84 percent of plan. With CEOs and CFOs being penalized by the capital markets

for failing to meet at least 100 percent of earnings expectations, clearly there is a gap in performance standards between what is expected of enterprises as a whole, and what is expected of IT organizations.

Another systemic impediment to increased IT investment is lack of access to business-performance metrics. In many fields of individual endeavor — employment, credit, education, for instance — it is axiomatic that "past performance is the best indicator of future performance." In IT, however, metrics have historically focused on IT efficiency or cost, and the shift to business-performance indices has been slow. In this regard, the gap between IT leaders and laggards is very wide. For example, on the simple question: "Do you know how much time your people spend in delays?," we found that 69 percent of the high performers had this information, where only 7 percent of the low performers claimed to track the metric. In an era of intra-organization competition for resources, IT organizations should take heed. We ask whether CIOs can expect to secure additional investment capital when, to consider just one type of performance metric, only 29 percent of all organizations surveyed conduct project post-mortems?

With all this in context, Accenture believes the IT marketplace is at a crossroads. CIOs are beginning to chart their courses for investment. We believe the upside of forward investing in IT is substantial. We examined four core indicators of IT performance:

- Productivity
- Utilization
- Execution
- Adoption

We believe the upside for business productivity growth is nearly 150 percent its current annual level, based on the spread between current and peak level achieved over the last three years. Looking separately at aspects of the four core indicators, and using industry leaders as our upside benchmark, we see that IT productivity upside potential is nearly 30 percent (comparing average performers to high performers). The utilization of online interactions for customers could jump 33 percent, if average performers move to high-performer levels. For execution predictability, the average for on-time, on-budget projects is 29 percent; our own delivery centers are averaging 98 percent. Finally, our research indicates a positive correlation between high adoption rates of newer technologies and higher productivity levels.

It is not just Accenture's opinion that a return to real IT investing has benefits. In the May 2005 issue of *Barron's*, featuring the "Barron's 500" performance ranking of the largest U.S. and Canadian public companies, the editors cited three common themes for the winners: 1) revenue growth, 2) smart use of information technology, and 3) tight-fisted overhead cost management. Barron's cites the #1 company in their ranking, United Health Group, as follows:

"Chief executive Bill McGuire says a number of important factors are responsible for the company's strong performance, but adds United Health's $2 billion investment in information technology over the past four years is one of the most salient. In 2001, the company handled 4 million electronic transactions — a claim or a question from a doctor or customer, for example. Last year it dealt with 220 million. Some 85 percent of claims and customer care transactions no longer require direct and costly human intervention."

Breaking out

With this kind of attention, we are convinced IT investing will regain momentum. The need to drive productivity and controllable earnings growth, where growth and pricing are set more by the market than the organization, will force the issue. But if companies are to avoid the past, where business cases were sketchy and spending was rushed, they must approach a few things differently.

- **Performance, not cost, must be the IT endgame.** CIOs can borrow a lesson from the recent history of the U.S. auto market. Japanese auto companies gained their initial U.S. foothold by low-cost pricing and outperformance in specific product features such as fuel efficiency. Their longer term advantage came, however, from a "performance first" strategy. From the premise that speed was more valuable than cost, for example, the Japanese built production systems that consistently introduced new features (or models) in one-third of Detroit's speed-to-market time. Shortened production cycles did lower costs, but the relentless Japanese climb in U.S. market share was founded on giving customers what they wanted, sooner.
- **IT must rethink the production methods of the business services factory.** By the standards of manufacturing production models, global IT delivery has been leveraged modestly, mainly for cost relief. Accenture believes organizations must adopt the lessons learned from manufacturing if they are to drive IT to value rather than being driven by the burden of IT hospice. In Asia, PC manufacturing provides an exemplary model, using a well-connected network of production pools in Taiwan, Singapore and

China to crush both cycle times and costs. Is there any reason that similar models cannot be developed for business-process applications development, using equally holistic, equally networked combinations of global resources?

- **Supplier networks are assets, not liabilities.** We have found that enterprises which regard their IT organizations as only cost centers tend to take a similar view of external IT-supplier networks. Individual solution providers are selected on an ad-hoc basis, often with financially adversarial contracts. By contrast, the most successful IT organizations we see are those that build collaborative partnerships with their suppliers, based on contractually shared incentives. These organizations select their suppliers with a holistic view, based on technical, philosophical and financial compatibility with their entire network.
- **"IT transformation" is not a codeword.** There are still some CIOs that believe "IT transformation" is code for "aggressive cost cutting." It is not: leading IT organizations understand it correctly, as a non-recurring, step-change event that touches all aspects of the IT value chain. These organizations set significant and sustained performance improvement, coupled with self-renewing capabilities, as their measure of a successful IT transformation exercise.
- **Without performance metrics, IT agendas will stall.** Continued competition for capital-budget resources within the enterprise mean increased pressure on CIOs to deliver measurable business value. It is no longer sufficient for IT organizations to justify expense on the basis of margin improvements in IT efficiency or even operating efficiency. Our experience suggests that the first step to embracing performance-based IT metrics is a change in mindset, sourced either in the CIO's office or in line businesses. From there, organizations must be prepared for a diffusion and "bake-in" process that can last up to two years, with commensurate commitments of funding and executive sponsorship.
- **IT investment is not an event, but a way of life.** In financial services, we have watched at least one IT organization propel the enterprise to increased market share against the online leader in its sector. The CIO has taken the perspective that the IT organization must invest steadily, irrespective of earnings fluctuations. Like the dollar-cost-averaging technique, IT investing must stay constant through earnings peaks and troughs.

While the strategic emphasis of IT organizations will be necessarily different, we believe those that eventually assume leadership, showcased in future rankings such as the "Barron's 500," will be those that embrace a number of these changes.

Bob Suh
Chief Technology Strategist
Accenture

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Key survey findings

The IT adoption curve

CIOs give compliance-related innovations the highest priority. Asked about their organization's level of commitment to 19 key technologies, we found that technologies supporting compliance gained the highest commitment. Technologies aimed at improving the architecture on which core applications are built also gained strong commitment. As one sign of general CIO conservatism, technologies focused solely on "improving the business" lagged the average of all technologies.

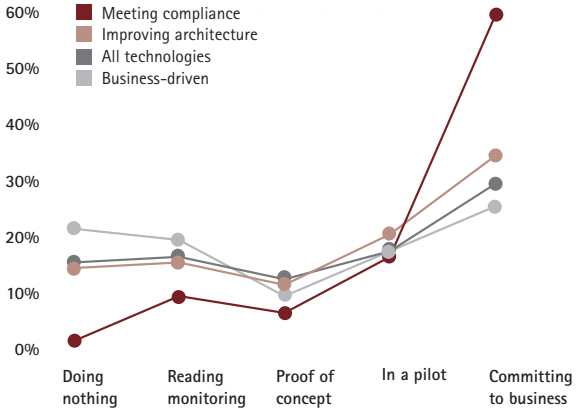
Adoption barriers

Market receptivity is king. CIOs have seen peer technology leaders repeatedly burned through mis-timed introductions, and learned the hard way that the inherent benefit of any new innovation runs a distant second to marketplace receptivity and organizational receptivity as a determinant of success. It is not surprising, then, that our CIOs named "when the business is ready" as the leading adoption driver in 12 of our 19 new-technology categories. The two other major drivers named were "when the normal replacement cycles begin" and "when it becomes the dominant standard."

Time and cost allocations

CIOs want less fixing and running, more growing. Asked about the primary drivers of cost, CIOs said "growth" for four types of IT activity: enhancing, building, integrating, and deploying. "Running" and "fixing" make up the counterweights. CIOs report "age of systems" is the biggest (30 percent) driver of cost for running applications, and "errors" the biggest (52 percent) in fixing them. One-third (33 percent) said their organizations spend too much time running applications; an even higher percentage (51 percent) said too much is spent fixing them. Of those surveyed, those with the most efficient IT organizations said they spend 49 percent of their time on high-value work (building and enhancing) versus 16 percent on low-value work (maintaining and fixing). The remainder of respondents say they spend half as much time on high-value work and three times as much on low-value work.

Technology adoption rates of 19 technologies

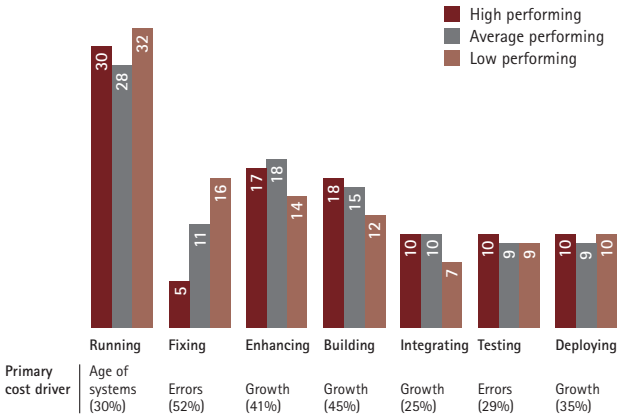


CIOs are adopting compliance-driven technologies to a much greater extent than business-driven technologies.

Technology adoption triggers

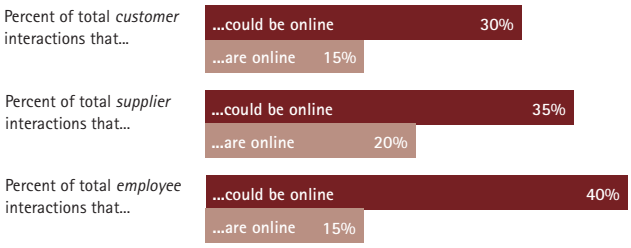
35%	When business is ready
22%	When normal replacement cycle begins
16%	When it becomes the dominant standard
10%	When technology is more reliable
8%	When there are more success stories
7%	When prices are lower
1%	When a bigger vendor offers the technology

Where IT organizations spend their time



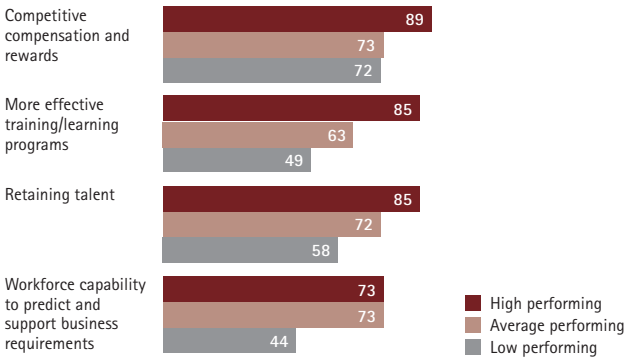
High-performing IT organizations spend significantly less time fixing applications as compared to low performers.

Online utilization



CIOs report significant underutilization of online capabilities, across the board.

IT workforce priorities



High-performing IT organizations place more emphasis on recruiting and rewarding talent, training and building a business-focused workforce.

IT performance metrics

	Need it	Have it	Gap
Root causes of execution delays on projects	72%	39%	33%
Amount of time my people spend in delays in waiting for business direction	57%	25%	32%
Amount of time my people spend working on projects with unclear requirements	61%	31%	30%
How I am leveraging scarce skills in my organization	63%	35%	28%
Post mortem reviews of projects	54%	29%	25%
Productivity differences between my people	46%	25%	21%
Rank order of my applications by technical and business fit	39%	33%	6%
Total IT spend in my entire organization on hardware and software	65%	71%	-6%

CIOs need performance metrics that help determine root causes of project execution delays.

Online utilization

Online interactions are underutilized. With online transactions averaging one-tenth the cost of traditional business processes, the earnings upside is substantial. Yet, when we asked CIOs what percentage of total interactions are now online, the answers indicate a full 20 percent underutilization, across the board. For the overall group, only 15 percent of customer interactions are online, against a 30 percent potential utilization. (It is worth noting that some leading organizations are at 80 percent utilization for customer interactions.) Twenty percent of supplier interactions are currently online, against a 35 percent potential utilization. And 15 percent of employee interactions are now online, against a potential 40 percent. In terms of forfeited productivity gains, the gaps speak for themselves.

IT workforce

IT organizations are "people" businesses. When asked to indicate their priorities for IT workforce and leadership, CIOs named organization-building initiatives most often. Under workforce issues the top three answers were "retaining talent" (87 percent), "skill and knowledge development" (85 percent), and "recruiting talent" (72 percent). They said the top three people-management issues were "improved leadership capabilities" (82 percent), "competitive compensation/rewards" (74 percent) and "increased knowledge capture and sharing" (64 percent).

IT performance metrics

CIOs want more and better metrics. Asked about the usage of applications development and maintenance metrics, CIOs report a large gap between where their organizations stand today and where they would like them to be. While many organizations report leaning on earlier-generation metrics models that focus on cost and headcount measurement, CIO respondents said they want access to performance-based metric tools. The metrics required to manage performance are more sophisticated than tracking budget and cost. These metrics include root causes of execution delays, measuring the skills pyramid, and measuring productivity differences between teams.

Applications portfolio management

A shift to "planned obsolescence". Our survey shows a correlation between organizations with an aggressive applications portfolio management approach and a disciplined decision-making environment. In the portfolio model, IT application assets are managed as a financial portfolio would be, with overall performance objectives, diversified risk exposures and laddered maturity schedules. With its emphasis on proactive application replacement, CIOs tell us, the portfolio approach acts as a structural counterweight to IT investment mindsets based solely on ad-hoc replacement cycles, compliance mandates or business demands.

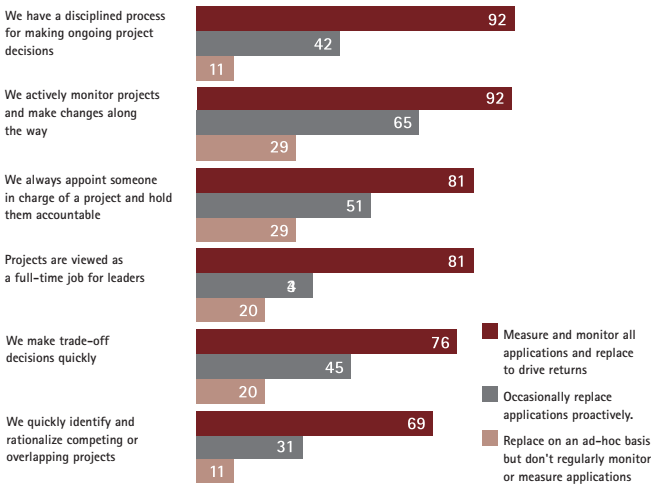
Regulatory compliance

Compliance is now the main business driver. CIOs know the commitments needed to meet regulatory mandates, such as Sarbanes-Oxley, are a permanent fixture of the IT investment landscape, and only likely to grow. As IT organizations reorder priorities to accommodate new regulation, compliance is crowding out the kind of "discretionary" IT investments that in previous periods might have fueled innovation. On the other hand, if the rewards of compliance-driven IT investment are relatively low, so are the attendant political risks to the IT organization.

IT decision-making

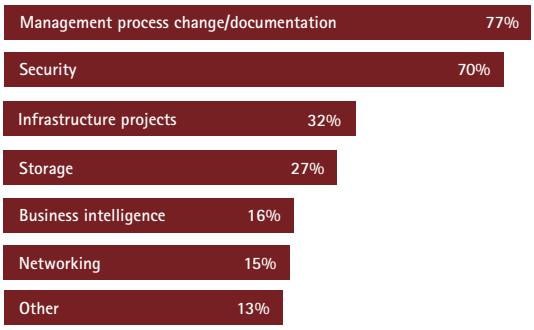
Robust IT governance correlates with high performance. We asked CIOs about their organization's likely use of 10 select IT governance best practices, from the premise that their answers would map to their organization's de-facto enterprise governance environment, regardless of formal structures or policies. When we compared answers to the performance of our respondent IT organizations, we found high-performing IT organizations more consistently embraced the best practices than did average performers or low performers, in some cases by wide margins.

Decision-making environment by applications portfolio approach



Organizations with a pioneering applications portfolio approach are much more likely to have a rigorous business decision-making environment.

Projects driven by Sarbanes-Oxley



Sarbanes-Oxley is driving a significant amount of process change documentation, security and infrastructure projects.

The Five "I"s: Comparing 'current' and 'ideal' states

Many of the questions in our survey were shaped to illuminate differences between CIO assessments of how their IT is performing today and where they wish it to perform in the future. In 33 areas of IT management, respondents were asked to rate their IT practices on a scale ranging from "basic" (1.0) through "progressive" (3.0) to "pioneering" (5.0). The definition of basic, progressive and pioneering practice was based on Accenture's appraisal of industry consensus on the given topic.

In our opinion, a gap of "1.0" or more between current and desired performance merits close attention. We believe this method of asking CIOs where they want to be versus where they are today provides a more meaningful measurement of how IT is performing, rather than traditional evaluations based only on IT costs and spending.

Taking this perspective further, Accenture averaged each respondent's "today" rating across all 33 categories, then segmented respondents into three levels of IT performance: high, average and low. "High performers" refers to IT organizations whose composite "today" rating was 4.0 or higher. "Average performers" are those whose composite "today" rating fell between 3.0 and 4.0. "Low performers" were those with a composite "today" rating below 3.0.

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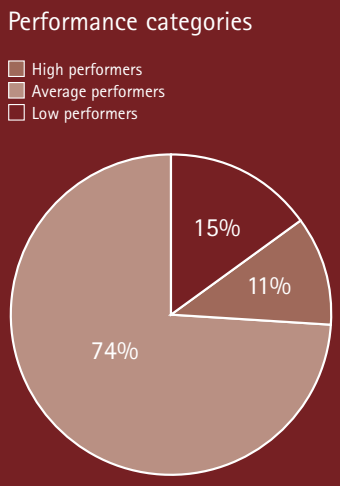


The Five "I"s: Industrialization

"By the standards of manufacturing production models, global IT delivery has been leveraged modestly, mainly for cost relief."

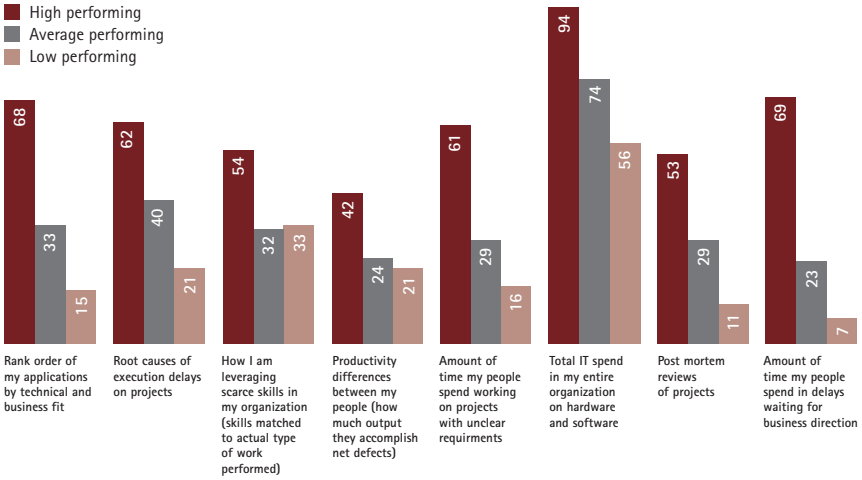
Standardization, specialization and consolidation drove the industrial revolution in manufacturing and are now driving the industrialization of IT. We are seeing the same evolutionary pattern in both realms, which starts with the consolidation of applications and infrastructure, then spreads to the focus on improving IT processes (again, within a single enterprise), and then finally to the management of entirely new categories of IT-supported activity, between enterprises.

Starting from the premise that performance metrics are a key to the industrialization of processes, our survey asked CIOs to tell us what metrics they needed and compared them to the metrics they have access to. CIOs understand there is large room for improvement; the overall "metrics focus" gap between "today" and "target" was 1.5, among the largest discrepancies in our entire survey.

CIOs told us they want diagnostic tools, focused on the delivery capabilities or productivity of the IT organization itself. The gaps between metrics they have access to and metrics they need access to were most acute in these categories. The largest gap (43 percent), for example, was for "root causes of execution delays on projects." Seventy-four percent of respondents rated it important, where only 31 percent claimed to having access to the information.

Other metrics categories with significant gaps were "amount of time my people spend in delays in waiting for business direction" (36 percent), "how I leverage scarce skills to actual type of work performed" (30 percent), and "amount of time my people spend working on projects with unclear requirements" (30 percent).

Access to performance metrics



High-performing IT organizations are much more likely to have access to performance-based metrics.

The hyper-productivity revolution

In the United States, according to the U.S. Department of Commerce, the manufacturing and services sectors each contributed roughly half of Gross Domestic Product (GDP) between 1995 and 2004. The manufacturing sector made this contribution to economic growth with approximately one-third the number of workers, highlighting a significant productivity gap between the two sectors. The rate of productivity growth in the United States during the same period shows a similar gap of four percent in the manufacturing sector against two percent for services.

In the meantime, the portion of worldwide GDP made up of service output has increased dramatically. Services-based revenues have become the anchor of profitability at many industrial companies. And corporate earnings have become far more sensitive to productivity data. The consequences of lagging productivity on economic growth, corporate earnings and equity values are staggering.

Those who would suggest that services are by their nature less susceptible to industrialization are forgetting the lessons of the hyper-productivity revolution in manufacturing, which drove geometric rates of decrease in unit cost alongside parallel increases in quality, speed and market impact.

In part, this development was a function of necessity: the pincers of razor thin margins and increasing labor costs, combined with ferocious global competition, forced entire industries to radically improve productivity or perish. Manufacturing learned to embrace performance-based metrics, develop strategic sourcing arrangements to reduce cycle time and invest in plant automation. Accenture's experience, by contrast, suggests that the same historic building blocks of industrialization seen in industry will apply in services.

The Five "I"s: Innovation

The "Silent Commerce" revolution that isn't — yet.

CIOs consistently tell us that "visionary" IT may command stakeholder attention, but "workaday" innovation commands the development resources. CIOs holding back on adoption of new technology know their business history. The marketplace routinely rejects high-visibility innovation, so CIOs commit their IT organizations to far less exciting, incremental advances, letting other enterprises absorb the risks of transforming innovation.

Two new-technology areas with wide non-specialist interest today are those that make up the so-called "silent commerce" revolution, such as Radio Frequency Identification (RFID) and wireless sensor telemetry. Both technologies have captured the public's imagination and commanded substantial press coverage, but our survey shows neither has secured much across-the-board commitment from IT organizations beyond those industries required to use the technologies. Both ranked near the bottom on our commitment index, with 85 percent of CIOs indicating "doing nothing" or "reading and monitoring" for RFID and 72 percent indicating the same for wireless telemetry.

From our experience with other innovation-adoption cycles, we think the absence of broad market take-up at this time is reflective of the maturity stage of these technologies. Break-through innovations tend to go through several commercialization attempts, some gradual and some dramatic, before they "take." Automated teller machines never encountered market rejection, but went through phases of acceptance as initial, single-institution models gave way to national networks. The Newton handheld computer, while unsuccessful itself, was instrumental in laying advance conceptual groundwork for the Personal Digital Assistant (PDA).

> "Compliance is crowding out the kind of 'discretionary' IT investments that in previous periods might have fueled innovation."

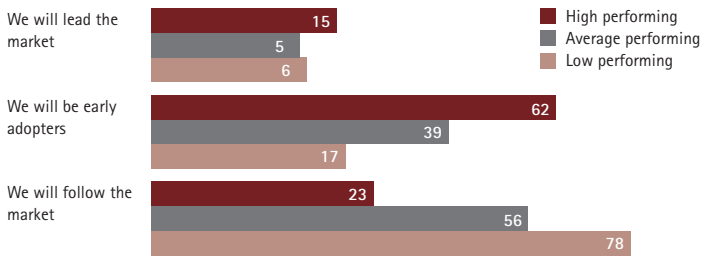
When asked about breakout IT innovation, the contrast between high-performing IT organizations and our total survey-response group is instructive. Seventy-seven percent of high performers said they planned to lead the market or be early adopters. By contrast, average and low performers reported their organizations prefer to "follow, not lead" when it comes to breakout IT innovation.

A majority of CIOs tell us their IT organizations are more interested in extending the possibilities in existing market-tested IT innovations than investing in new ones. Often the new adaptation has a "defensive" cast: we found virtualized storage being used to meet data compliance needs, rather than creating tiers of information value. We found utility computing solutions used to support business continuity, instead of enabling virtual business processes.

When Accenture inquired about adoption strategies in 19 key technologies, CIO conservatism showed up in the specific patterns of commitment. We asked CIOs to rank their organization's commitment to each technology on a scale that ranged from "doing nothing" through "reading and monitoring," "in a proof of concept (could still abandon)," "in a pilot (committed to a technology in a limited area)," and finally, "committing technology to a major part of our business." The highest-scoring were "security software" (with 70 percent "committing technology to a major part of our business"), "application server software" (60 percent) and "virtualized storage" (57 percent), all technologies somewhat defensive in nature.

The "whys" of information technology adoption mirror this conservatism. Our research indicates that compliance and business growth are two major claimants of new IT spending, while fixing and maintaining are the major claimants of time spent. For 19 new technologies, "when the business is ready" was the most named adoption trigger from a list of seven common drivers followed by "when the normal replacement cycles begin" and "when it becomes the dominant standard."

Innovation



CIOs of high-performing IT organizations stake their futures on market-leadership and early-adoption strategies for innovation.

The Five "I"s: Information

"Given the enormous amounts of capital expended on IT, CIOs say the state of data intake is particularly troubling."

Information makes up the biggest moving target in IT. Quantitatively, the amount of unstructured data gathered and managed annually by enterprises grows exponentially. Qualitatively, the shift is even more radical, as the conceptual framework for data moves from a historic, disaggregated and static perspective, to one based on assumptions about the potentials in dynamic data management. With regard to information, our survey suggests we are now in the kind of interim period that observers of all scientific revolutions note, when methodologies, practices and tools have yet to catch up with new conceptual leaps.

CIOs report intense awareness of their current information limitations, in data use, data quality and the identification of data value. We asked CIOs, for example, how well their knowledge workers can directly analyze and use data to support their work, on a range between "little access/no analytic capabilities" and "sophisticated capabilities." The gap between "today" and "target" was a significant 1.4. Similarly, we asked them about their organization's ability to "consistently manage data quality and enforce data standards across a secure environment," along a range from "no data standards" to "comprehensive management policies." The today/target gap was a substantial 1.3.

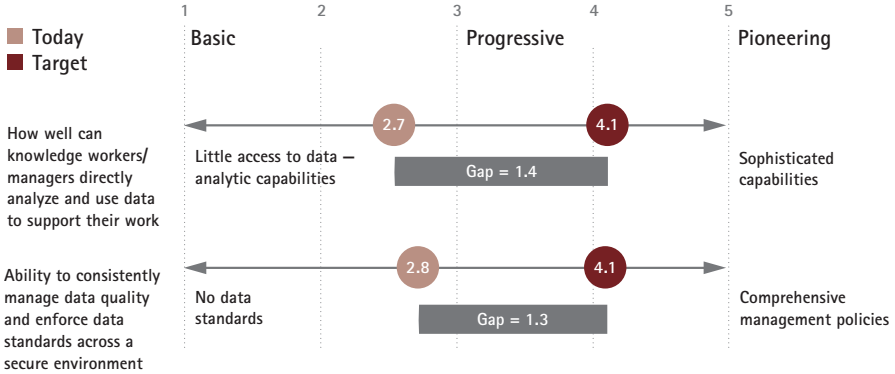
Given the enormous amounts of capital expended on IT, CIOs say the state of data intake is particularly troubling, with enormous amounts of data still manually key entered, often from paper forms that serve either as the primary front-end process or as a back-up for an automated process. The loss of productivity from this duplicate effort (and subsequent correction of errors) is disturbing, they say. Our conversations with CIOs indicate that the liabilities posed by aging and incorrect data are far deeper and more widespread than generally believed.

The data governance movement

Who controls, corrects and "permissions" data use within an entire enterprise? Who brokers the data relationship with external parties, such as customers or citizens? CIOs tell us that the flashpoints of public alarm about corporate data management — privacy breaches and inaccurate credit reports — are really the symptoms of these unanswered, structural questions. In the face of exponential data growth, the concept of enterprise-wide ownership of data has been slow to take hold.

Our own research shows that some organizations are now moving to define data governance as an extremely high priority. But it also suggests that expectations for the emergence of standard solutions may be premature. Currently, data ownership approaches vary widely. On questions of accuracy, for example, some organizations are choosing to make the customer the ultimate responsible party. Regulatory bodies, for their part, are responding in sometimes contradictory ways, with data privacy rules issued alongside security directives mandating the sharing of information that could support criminal activity. CIOs can easily find their organizations caught between the naturally retrospective outlook of regulators, and the inherent dynamism of technology change.

Information



CIOs' targets for organizational access to data analysis and management tools far exceed current capabilities.

The Five "I"s: Infrastructure

"Static" and "dynamic" sourcing

When asked to describe the current relationship with their outsourcing partners on a basic to pioneering scale, the largest number of CIOs said "meets basic service levels, but is a bit inflexible." Their average target relationship was "a close working relationship with our applications teams" and "makes shared investments in new capabilities."

From Accenture's perspective, this gap points to a privately acknowledged topic of concern in outsourcing: "static" transactions that deliver immediate, real and significant labor cost savings, but underweight other "total cost of ownership" factors such as delivery speed, technology replacement cycles and quality control. In these cases, while the IT marketplace moves, the deals do not, constrained by the original financial terms. The constraint can lead over a contract life to frozen technology platforms, lowered satisfaction for the client and lowered margins for the outsourcer.

Over the past decade, as outsourcing models proliferate, we have seen early emergence of "dynamic" deal structures that encourage client and provider to collaborate in continuous improvement. These structures may include mechanisms for self-funded innovation, for steady adoption of best-of-breed solutions as they emerge, and for shared financial gains when costs are further lowered.

> "The larger infrastructure issue facing CIOs is chronic deferred investment."

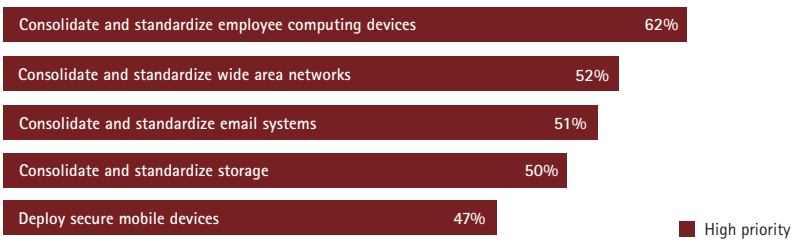
After years of variable and uncoordinated investment in IT infrastructure, CIOs tell us their broad priorities now lie in consolidation and standardization. We asked CIOs to indicate priorities from a list of 14 activities that fall into the larger infrastructure categories of workplace and devices, network, data center, operations and security. Five of the top six activities focused on consolidation/standardization of server computing (71 percent named it a high priority), employee computing devices (62 percent), wide area networks (52 percent), email systems (51 percent) and storage (50 percent).

In a risk-averse IT climate such as the current one, this result is not surprising. Infrastructure rationalization requires no new customers, no new products, no additional revenue streams, and in fact no contingency for circumstances outside the enterprise wall. It is low risk and potentially high return.

The larger infrastructure issue facing CIOs is chronic deferred investment, which has left some enterprises painfully unprepared to capture opportunities in three huge IT infrastructure shifts now underway. The first shift is the mobility revolution, represented by handheld or wireless devices that enable the geographic dispersion of business processes such as sales and field maintenance to the edge of the enterprise. The second shift is the migration of computing power through various distributed-server configurations to the current frontier of virtualized provisioning, where IT capacity is flexibly sourced within the enterprise on an as-needed basis. The third shift is the advent of utility computing, which will enable IT organizations to give up certain proprietary capacities, and source them externally, again on an as-needed basis.

While we noted the strategic vulnerabilities that underinvestment has caused, we are heartened by one countervailing trend — the strong investment in security-related capabilities. CIOs ranked "security software" number one among 19 new technology categories by actual commitment, with 70 percent substantially "committing to the technology," 23 percent in pilots or proofs-of-concept, and just seven percent "reading and monitoring" or "doing nothing."

Infrastructure



Consolidation and standardization lead the list of infrastructure priorities.

The Five "I"s: Integration

"Many organizations traded ERP installation speed for thoroughness and this has left them with large, uncaptured swaths of basic ERP functionality."

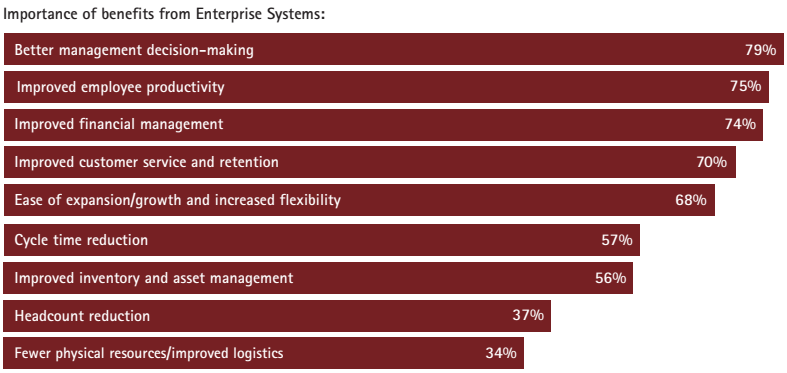
IT organizations are using integration technology effectively to manage costs, but not yet embracing its possibilities for performance management. Integration comprises 10 percent of the average IT budget, and CIOs say they spend too little time on proactive integration. The most obvious integration tools, of course, are provided by Enterprise Resource Planning (ERP) systems. Our survey suggests that integration is underleveraged as an IT approach, with major productivity consequences.

We asked CIOs to evaluate ERP benefits in 11 areas. The three leading categories were "better management decision-making" (79 percent rated "very important"), "improved employee productivity" (75 percent) and "improved financial management" (74 percent). The two least important ERP-benefit areas were "headcount reduction" (37 percent) and "fewer physical resources/improved logistics" (34 percent).

Accenture's marketplace observations suggest some organizations may still be content to live off the ERP investment made nearly a decade ago as part of Y2K preparations. If so, the enterprises may be taking a "pass" on opportunities enabled by the most recent generation of ERP solutions. This is true even in finance and administrative organizations, the historic source of IT application development and still the number two destination of IT investment (after operations & production). Compared to six other general business functions we surveyed, its average application portfolios are among the youngest.

Our survey results suggest IT organizations will contend with layers of legacy applications for some time to come, including disparate databases, overlapping business intelligence tools, and redundant platforms. In some cases, particularly in industrial and natural resources organizations, legacy applications meet needs, are fully depreciated and serve extremely cost-constrained operations. In other cases, the need to protect legacy investment is appropriate.

Integration



CIOs report a 12—24 month payoff period for investment in most new ERP functionality.

IT and post-merger integration

Our survey showed that CIOs cited business growth activity as the number one driver of costs in IT maintenance, enhancement and integration. Much of this activity is likely related to mergers and acquisitions (M&A), as most CIOs can now point to at least one significant merger experience, a shift from even a decade ago. The integration of merged IT organizations and infrastructures is one of the most demanding challenges an IT organization may face. Under highly pressured circumstances, a newly consolidated IT organization may be directed to support a new configuration of businesses, or a re-weighted strategy within existing business lines, while preserving business continuity and managing a rapid cost-extraction process.

Within IT, it is an open secret that information technology is a highly "cultured" professional discipline, where "soft" factors count for more than is often appreciated. Our survey data confirms that CIOs are deeply concerned with organizational priorities such as recruitment, retention, skills development and better leadership.

Post-merger conditions only amplify these issues, creating one-stroke organization change possibilities for CIOs, but also offsetting conditions ripe for the exodus of talent. Against this background, we are particularly interested in watching the dissemination of practices around IT culture management. CIOs tell us "cultural integration obstacles" have proven to be one of the most frequent obstacles to successful post-merger IT integration.

About the survey

This survey was conducted on behalf of Accenture in the United States, United Kingdom, France, Germany and Italy by NOP World, a leading supplier of custom and syndicated research. NOP is part of the GfK Group, a top-five global market research organization with offices worldwide.[1]

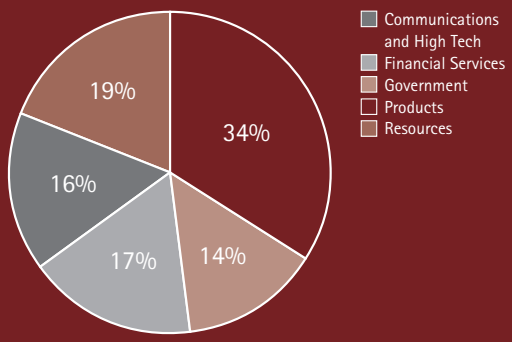
- Field research for this survey began January 10, 2005. Participants were asked to fill out an online questionnaire, and responses were gathered for this initial report until May 10, 2005.[2]
- Markets included in the research initiative are the United States, United Kingdom, France, Germany, Italy, Argentina, Australia, Singapore, China and Japan. Due to staggered field-research launch dates, responses from China and Japan are not reflected in this initial publication. Accenture intends to issue subsequent results that incorporate responses included in this report, plus additional responses.[3]
- This survey sample consists of 310 Chief Information Officers, defined as the senior decision-making executive in the IT organization.
- By sector, target survey organizations were distributed as follows: Communications & High Technology – 16 percent, Financial Services – 17 percent, Government – 14 percent, Resources – 19 percent, and Products – 34 percent.
- For publicly-listed companies, minimum size for inclusion in the survey universe was determined by annual revenues; in general these correspond to "Fortune 1000'" companies or their non-US equivalents. For government entities, insurance companies and health providers and payers, the survey used minimum-size measures such as numbers of employees, numbers of insured or numbers of hospital beds.
- The findings of the survey remain the property of Accenture LLC, and use of results from the survey must reference Accenture as its source.
- For more information about the survey, contact Jeff Francis (jeffrey.a.francis@accenture.com) or visit www.accenture.com/ciosurvey.

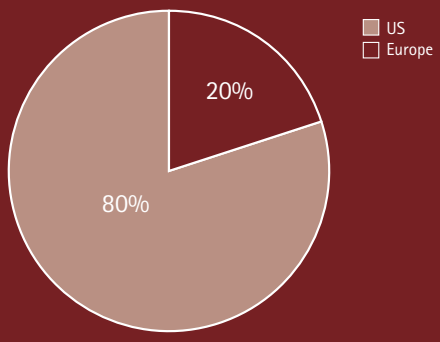
[1] The survey was conducted on behalf of Accenture in Argentina by D'Alessio IROL, a supplier of market research and management, marketing, media and human resources consulting. In China and Japan, the survey is being conducted by BPRI, a leading global research-based consultancy.

[2] In Australia and Singapore, the research was conducted between August and November 2004, with 100 CIOs participating in a research survey and a further 25 in roundtable discussions. The IT infrastructure specific findings of the Australian and Singaporean research have been released in a report, *Building a High Performance IT Infrastructure*.

[3] While not referenced in this report, Accenture analyzed a related but separate study of CIOs in Chile, "2004 National Research on Information Technology," conducted by the Center for IT Studies, Catholic University of Chile.

Methodology and sample





The survey sample included both Accenture clients (26 percent) and non-clients (74 percent).