

Industry views


Technology executive connections

Successful strategies for talent management*

Volume 3



*connectedthinking

PRICEWATERHOUSECOOPERS 

The following report is global in scope and features analysis and commentary developed from a combination of survey instruments and in-depth interviews with senior executives.

The surveys

The quantitative findings presented in this report are based on a survey conducted by the Economist Intelligence Unit (EIU) in June 2006. The survey garnered 153 responses from senior executives based in five principal regions: 30% Asia, 41% Europe, 23% North America, 5% the Middle East and Africa and 1% Latin America.

The interviews

The EIU conducted 22 personal interviews with senior technology executives to supplement the quantitative findings. On-the-record interviewees include:

Lisa Anderson, VP and Secretary, SEMI (Semiconductor Equipment and Materials Institute)

Ronald D. Black, CEO, Wavecom

Amy Cappellanti-Wolf, VP of Human Resources, Cisco

Jeff Chambers, HR Director, SAS Institute

Tanya Clemens, Corporate Vice President, People and Organisational Capability, Microsoft

Andy Esparza, VP Global HR Services, Dell

David Ferrell, Director of Workforce Strategy, SIA (Semiconductor Industry Association)

Jerry Kissinger, Educational Manager for Santa Clara, California, Intel

Randy MacDonald, SVP Human Resources, IBM

Gwen McDonald, SVP Human Resources, Network Appliance

Libby Sartain, Chief People Yahoo!, Yahoo!

Sushil Tayal, HR Director, Logica CMG India

Daniel Warmenhoven, CEO, Network Appliance

Both the EIU and PricewaterhouseCoopers wish to extend their gratitude to all who participated in the surveys. We are especially grateful to those senior executives who granted personal interviews.

(For more on the survey methodology, see page 51.)



Dear executive,

I am pleased to present to you our third edition of Technology Executive Connections, a series of surveys designed to help executives in the technology industries better explore, understand and share ideas on today's pressing business and strategic issues.

The proven approach of recurring online surveys of senior leaders worldwide supported by one-on-one meetings with major industry thinkers around the globe allows the Technology Executive Connections series to gauge the climate within the industry, gain insight into executives' opinions and promote leading analysis and thought on current issues.

The first survey asked technology executives what they thought about the challenges that a rapidly changing environment brought upon their strategy and tactics. The second examined the issue of convergence and its influence on M&A activity across the technology, telecommunications and media sectors. (For soft or hard copies of these reports visit www.pwc.com/techconnect.)

Here, in our third volume, we examine the ongoing challenge of talent management, so critical to growing a successful technology company in today's competitive market. Stock option offerings are more limited today and at the same time companies are looking at other HR strategies—including offshoring and outsourcing. All of this leads to the need for a stronger focus on growing the people already in-house to meet talent needs. Interestingly, executives rate their own company's ability to manage talent rather poorly. This could be a big concern considering the predicted scarcity of professionals who can both innovate and collaborate—skills that tomorrow's companies desperately need. The report goes on to discuss specific strategies that leading companies today are developing to grow tomorrow's workforce.

I hope this report provides interesting, thought provoking reading and that it positively influences talent management strategies within your company. I welcome your thoughts on the issues we've discussed herein and your ideas for future topics to explore, so feel free to contact me via email at william.cobourn.jr@us.pwc.com.

Sincerely,

A handwritten signature in dark ink, appearing to read "Bill Cobourn", written in a cursive style.

Bill Cobourn
Partner and Global Technology Industry Leader

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Executive summary

Workforce investments represent a singular, untapped opportunity for technology companies to drive financial performance in the coming decade. The effectiveness of these investments may well determine which companies succeed or fail; which companies continue to innovate, cut costs and drive productivity; and which companies spend too much energy just to replace the talent they once had or work without cohesion due to poor leadership and direction. To assist industry executives in addressing their opportunities and challenges in the field of human capital, the EIU and PricewaterhouseCoopers conducted a global online survey of 153 executives in June 2006, supplementing the findings with 22 in-depth executive interviews.

Note de synthèse

Les investissements en matière de ressources humaines représentent une opportunité unique, inexploitée pour les sociétés technologiques de bénéficier de belles performances financières au cours de la prochaine décennie. L'efficacité de ces investissements pourrait bien déterminer quelles sont les sociétés qui connaîtront un succès ou un échec, quelles sociétés continueront à innover, réduiront leurs coûts et amélioreront leur productivité, et quelles sont les sociétés qui consacrent trop d'énergie au remplacement des talents qu'elles ont un jour comptés dans leurs effectifs ou les sociétés qui travaillent sans cohésion en raison d'un manque d'orientation et de leadership. Afin de permettre aux dirigeants du secteur de saisir les opportunités et de relever les défis en matière de capital humain, en juin 2006, l'EIU et PricewaterhouseCoopers ont mené une étude en ligne au niveau mondial auprès de 153 dirigeants, dont les résultats ont été étayés par des entretiens approfondis avec 22 d'entre eux.

Inhaltsübersicht

In der Förderung und Schulung von Mitarbeitern liegt eine einzigartige, bislang weitgehend unbeachtete Chance für Technologieunternehmen, ihre finanzielle Leistungsfähigkeit nachhaltig zu erhöhen: Die Effektivität dieser Investitionen kann entscheidend dafür sein, welche Unternehmen erfolgreich sind und welche scheitern, welche Unternehmen weiterhin Forschung und Entwicklung vorantreiben, ihre Kosten senken und ihre Produktivität erhöhen, und welche Unternehmen zu viel Aufwand darauf verschwenden, v.a. talentierte Mitarbeiter, die das Unternehmen verlassen haben, zu ersetzen oder das bestehenden Arbeitskräftepotenzial zielorientiert einzusetzen. Um Technologiefirmen bei der erfolgreichen Bewältigung dieser Herausforderungen zu unterstützen, hat PricewaterhouseCoopers in Zusammenarbeit mit der Economist Intelligence Unit (EIU) eine Umfrage durchgeführt. Im Juni 2006 wurden dafür weltweit 153 Manager befragt und die Ergebnisse durch 22 vertiefende Interviews mit Führungskräften ergänzt.

总结

人力资源投资为科技公司在未来十年提高财务绩效提供了独特的，前所未有的机遇。人力资源投资的有效性可以决定公司的成败，决定公司能否继续创新，降低成本，提高生产率；同时决定公司是否由于领导不力，目标不明确而不得不花费过多的精力调换原有人才，工作缺乏凝聚力。为了帮助行业高管明确其在人力资本领域面临的机会和挑战，经济学家情报部和普华永道于2006年6月携手对153名高管进行了全球网上调查，并在此基础上补充了对22名高管进行的深入访谈。

The four principal observations are:

Les quatre principales observations sont les suivantes:

Die vier wichtigsten Beobachtungen in diesem Zusammenhang waren:

调查的四项主要发现如下：

1 A priority with failing grades

Many technology executives are making human capital management a greater priority, but our survey shows they do not have a high regard for their firms' current capabilities in this area.

De nombreux dirigeants du secteur de la technologie font de la gestion du capital humain une priorité, mais notre étude révèle qu'ils n'ont pas une haute opinion des capacités actuelles de leur entreprise dans ce domaine.

Ein Großteil der Führungskräfte misst dem Thema der Förderung von Humankapital einen höheren Stellenwert bei. Dem Management des heutigen Mitarbeiterpotenzials wird aber kaum Rechnung getragen.

很多高管将人力资源管理放于优先地位。但是调查显示，他们对公司在这一领域内的能力并不看好。

Discussions with technology executives show that many are making human capital management a greater priority, but our online survey shows that the vast majority of respondents do not have a high regard for their firms' capabilities in this area. In fact, a lot of these self-assessments show failing grades in many of the most critical aspects of attracting, retaining and developing people.

Weaknesses include: little provision for training senior executives; limited capabilities for recruiting and developing talented people; and uneven career development at all levels of the organisation.

What is more, at least a third of technology companies give their organisations a failing grade in critical areas such as defining, measuring and rewarding collaboration. Low marks are also awarded for anticipating and addressing senior executive succession, as well as fostering entrepreneurship and innovation.

The smaller companies in the survey demonstrate significantly more confidence than the larger ones in several critical capabilities.

Technology companies are being served a wake-up call to re-prioritise human capital strategy as a driver of superior, sustained performance.

2 Acquiring hybrids

Executives are beginning to experience a painful scarcity for the essential employee: that talented, technically-savvy individual who can collaborate, innovate and manage change.

Les dirigeants commencent à ressentir un sérieux manque de personnel clé : des salariés compétents, ingénieurs sur le plan technique qui peuvent collaborer, innover et réagir face au changement.

Viele Manager realisieren, dass ihnen insbesondere eine Sorte von Personal fehlt: Der talentierte, technisch versierte Mitarbeiter, der teamfähig ist, innovativ und veränderungswillig und -fähig.

高管开始感觉到缺乏必要人才的痛处。他们需要那些能够合作，创新，管理变革的有才干的，技术精湛的复合型人才。

It's too simple to say that the competition for talent is intensifying. It's not purely a numbers game today, but rather a contest for quality. Executives are beginning to experience a painful scarcity for the essential employee: that talented, technically-savvy individual who can collaborate, innovate and manage change.

Today, it is North American executives who are most likely to describe the availability for this talent as very scarce. But over the next three years, it is European and Asian executives who anticipate the most severe levels of scarcity. The decline of technical education, coupled with the growing demand for those individuals who can innovate, drives this sense of scarcity.

With stock options a limited attraction strategy, companies today need to become much more creative to acquire this hybrid talent. Partnering with local schools and universities is beginning to yield a strong harvest.

3 Harvesting talent from within

Technology companies worldwide are focusing on personnel development and training and, by inference, on the retention of new hires and existing personnel.

Dans le monde entier, les sociétés technologiques se consacrent au développement personnel et à la formation, et ainsi, à la rétention du personnel nouvellement embauché et du personnel existant.

Technologieunternehmen weltweit konzentrieren sich auf die Mitarbeiteraus- und-weiterbildung. Gleichzeitig gewinnt die Bindung neuen wie bestehenden Personals an das Unternehmen zunehmend an Bedeutung.

全球科技公司目前重视人才的发展和培训，从而推论，他们也重视保留新员工和现有人员。

Technology companies worldwide are becoming more sophisticated in their approaches to identifying, recruiting, developing and retaining talent.

In particular, they are focusing on personnel development and training and, by inference, on the retention of new hires and existing personnel. Over a third of companies say they will focus on these capabilities extensively.

Other critical sources of talent include recruitment from competitors, outsourcing for specialist skills, recruitment from top schools, offshoring, partnerships with other technology firms and recruitment from other industries.

4 Managing global markets and global talent

Nearly half of all technology companies say they have difficulty finding technical talent in emerging markets, and just under half say these difficulties include the retention of skilled people around the globe.

Près de la moitié des sociétés technologiques avouent qu'elles rencontrent des difficultés à trouver des salariés talentueux sur le plan technique dans les marchés émergents, et un peu moins de la moitié d'entre elles précisent que ces difficultés incluent la rétention de personnel qualifié au niveau mondial.

Nahezu die Hälfte aller befragten Unternehmen hat umfragegemäß Probleme in der Akquise technisch kompetenter Mitarbeiter in sich entwickelnden Märkten - aber auch fast die Hälfte hat aus weltweiter Sicht Probleme, ihre gut ausgebildetes Personal zu halten.

一半左右的科技公司认为在新兴市场寻找技术人才较为困难，少于一半的公司认为这些困难包括在全球范围内保留技术人员。

Nearly half of executives say that managing a global talent pool is becoming one of their greatest challenges.

But though management of worldwide talent is a significant challenge, technology companies must continue to enlarge their global pool of skills. Approximately one-third of companies currently pursue offshoring to a significant degree. But this figure will rise to nearly half of all technology companies over the next three years.

Executive perceptions relating to the scarcity of talent are not limited to developed markets. Nearly half of all technology companies say they have difficulty finding technical talent in emerging markets, and just under half say these difficulties include the retention of skilled people.



Introduction

People are the most important resource of any company. Technology companies especially have always had to compete for the best and brightest. Today, they face a looming talent shortage and must take steps to deal with it.

Because of the unusually heavy demands placed on employees in technology industries, a Darwinian process winnows the available number of successful people to a small quantity of sought-after individuals worldwide. An advanced degree in mathematics or the sciences is just the beginning. Once hired, candidates need not only to have a strong drive to succeed but also the willingness to learn continuously and collaborate. On top of this, they need to have the ability to innovate.

Such people are already scarce, and the competition for the successful ones is fierce. To continue fuelling the industry's breakneck growth, executives forecast that traditional pools of talent will prove insufficient.

In response, technology organisations are raising their capabilities in the field of human capital management. Faced with growing competition for the talent they need, they're working harder and longer at keeping their best, developing skills internally, and always on the lookout to attract the best and brightest. They're refining their business focus, outsourcing where applicable and offshoring to gain access to larger pools of global talent.

They're even expanding their outreach programmes, providing assistance to schools and universities in an attempt both to improve the curriculum and attract more individuals to the study of mathematics and the sciences.

Perhaps in recognition of the value of people and the coming talent shortage, technology companies are placing particular emphasis on retaining and developing the talent already on staff.

But how effective are these approaches? Are companies focusing on the right aspects of human capital management? Are they investing enough and moving fast enough to sustain their growth amid a coming global talent war?

The following report demonstrates that although there has been much progress and accomplishment in the management of human capital, technology executives still have a long way to go if people are to become a truly vital component of continued success.



Observation one:

A priority with failing grades

Many technology executives are making human capital management a greater priority, but our survey shows they do not have a high regard for their firms' current capabilities in this area.

Winning employees' hearts, minds,...and loyalty

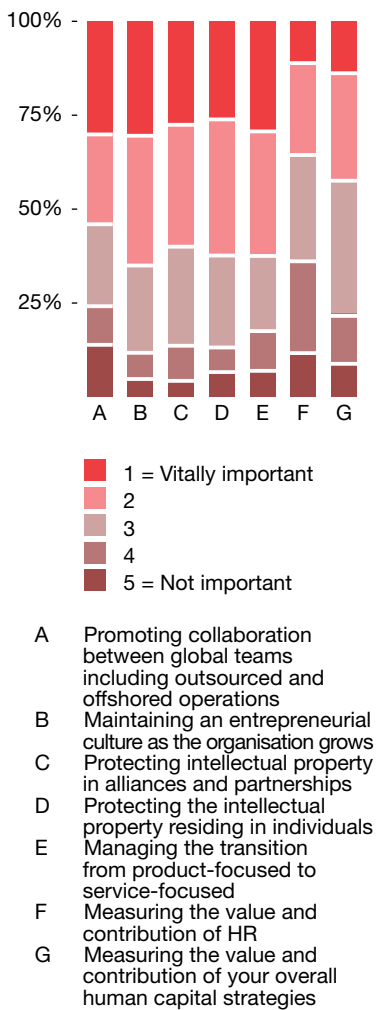
Given a looming talent shortage, the technology industry will undoubtedly begin focusing more extensively on improving the management of its human assets and on enhancing its capabilities in attracting, retaining and developing people. Discussions with executives show that many are making human capital a priority. The sooner this is done, the better, as the survey shows that most do not give their capabilities high marks in this area. In fact, many self-assessments show failing grades in some of the most critical aspects of human capital management.

Is management even ready for the talent war?

In an era of scarcity, technology companies will need to focus more acutely on their talent management. But today, in many areas of human capital management, executives' self-assessments show little or no confidence in their companies' abilities.

For example, only 8% say their programmes 'very adequately' address the provision of appropriate training for senior executives. Of even greater concern, only 15% give their companies the highest marks in terms of recruiting and developing talented people companywide. The same low score, 14%, applies to the provision of career development to all levels of the organisation. At 11%, companies are equally lukewarm in their appraisal of their abilities relating to defining, measuring and rewarding innovation, although at 18%, North American companies express the highest confidence in this area. All four, it is worth noting, are critical capabilities, the importance of which is more fully explored in Observation three.

Figure 1. How important are the following issues to your company?



Few executives say their organisations ‘very adequately’ address critical capabilities

Capability	Overall	No. Amer.	Europe	Asia-Pacific
Recruit and develop talented people	15%	17%	10%	17%
Provide career development to all levels of the organisation	14%	14%	18%	11%
Define, measure and reward collaboration	11%	18%	10%	7%
Provide appropriate training for executives	8%	9%	8%	6%

% = executives whose self-assessments say their companies ‘very adequately’ address these issues.

The picture becomes even more bleak when considering the numbers of respondents whose self-assessments fall into the ‘not adequately’ range. Here, 35% give themselves the lowest scores possible—a 4 or 5 on our five-point scale—in terms of defining, measuring and rewarding collaboration, partnership and innovation. Similarly dismal self-assessments apply to the provision of career development to all levels of the organisation (31%), anticipating and addressing senior executive succession (44%), and fostering entrepreneurship and innovation (35%). This latter statistic is particularly distressing given that nearly two-thirds (64%) of executives say that fostering entrepreneurship and innovation as the organisation grows is vitally important (31%) or important (33%).

Many executives express low confidence in critical capabilities

Capability	Executive self-assessment: not adequately
Defining, measuring, rewarding collaboration, partnership and innovation	34%
Provide career development to all levels of the organisation	31%
Anticipate and address senior executive succession	43%
Foster entrepreneurship and innovation	34%

% = executives whose self-assessments say their companies do not adequately address these issues.

Larger isn’t always better

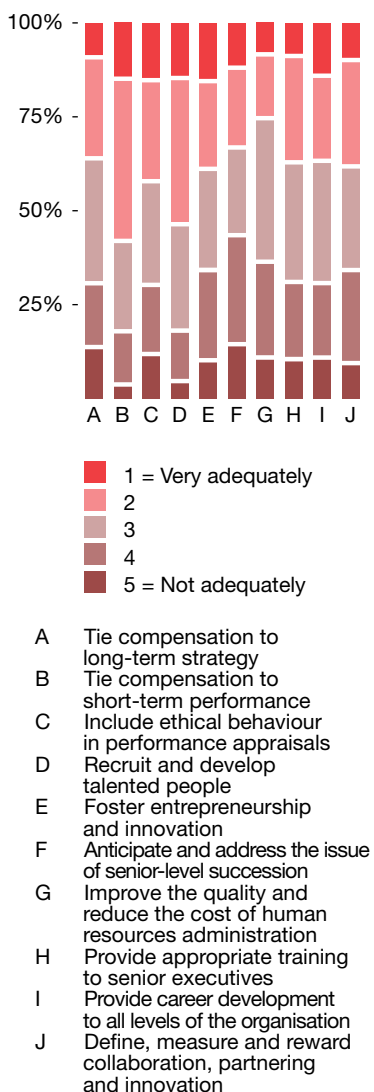
The level of dissatisfaction appears to be linked to the size of the organisation. According to the survey, the smaller the organisation, the higher its self-assessment marks for a host of critical capabilities.

For example, 16% of executives from companies under \$500 million give themselves the highest grade in terms of tying compensation to longer-term performance, versus only 5% of companies over \$5 billion.

Similarly, 24% of executives from the smallest companies in the survey say they very adequately foster entrepreneurship and innovation, compared to only 7% of the largest companies.

If criticisms of corporate performance include a lack of entrepreneurship or the lack of a long-term focus, then large companies’ weaker capabilities in these areas appear to confer considerable competitive advantage to smaller companies.

Figure 2. How adequately do your human capital management processes address the following issues?



Smaller companies express higher confidence in:

	Under \$500m	Over \$5 billion
Tying compensation to longer-term performance	16%	5%
Fostering entrepreneurship and innovation	24%	7%
Recruiting and developing talented people	21%	5%

% = executives whose self-assessments say their companies 'very adequately' address these issues.

According to Daniel Warmenhoven, CEO of Network Appliance, “most larger companies, by definition, cannot be as entrepreneurial as a smaller, high-growth organisation. They have too many layers and too much legacy.” Similarly, says Network Appliances’ Senior Vice President of Human Resources, Gwen McDonald, most large companies are only now beginning to see the value of strategic human capital management. “Though they talk about it, you don’t see it in their analyst briefings or their annual report.”

Meanwhile, the HR director of a large European technology group says “start-up companies have a lot of advantages in terms of their ability to focus more closely on a smaller set of issues.” Similarly, he continues, near-term profitability is not as important as long-term growth. “They don’t need to hire hundreds of engineers per quarter and they don’t have thousands of employees to protect. So retention and recruiting can be more focused.”

But small companies don’t necessarily agree that they are in a better position. For example, at France’s Wavecom (\$150 million), CEO Ronald D. Black says that while his company may be small, its far-flung operations still require active human capital management. “We’re global, with three distinct regions: EMEA, Asia-Pacific and the Americas,” he explains. “So the challenge is keeping an extremely culturally diverse group of employees motivated and working toward the same goal.”

This, explains Black, means constantly finding “the right balance between innovation, usually associated with a bit of chaos and less stringent controls, and the quarterly treadmill of tight operational performance, usually associated with discipline and tight controls.”

The company is also in the midst of integrating a recently acquired business. Here, says Black, “problems occur from cultural misunderstandings.” The solution, he says, is to “over communicate. So our leadership team meets via teleconference weekly and comes together for two-day face-to-face meetings monthly.” Although “it is a substantial investment in management time,” says Black, “it has paid off by allowing us to ultimately be more nimble as a company.”

Turning lemons into lemonade

Given expectations of a growing talent shortage and a lack of confidence among respondents in the ability to manage their human capital, companies large and small need to invest now in a more strategic approach to the issue.

The good news is it's a wide open playing field for a technology company to take the lead in talent management.

The best place to begin, say interviewees, is to gain the support of top executives in making the necessary changes to a company's human-capital management. As McDonald of Network Appliance explains, "you need a CEO and a senior management team that not only 'gets it', but that is willing to support what you do at every turn."

Of course, it's an easy matter to say human capital management is a priority. But the importance of effective talent management must be clearly demonstrated at the top before line managers will come to believe this is a genuine priority.

At Network Appliance, says Warmenhoven, "we're very clear with our managers that it's our people that matter." To support his claim, he points to several indicators. For example, "we've launched four completely new product lines in the last 18 months, and three out of four of the general managers selected came from inside the company." Similarly, "we also track the number of people we promote to VP as opposed to hiring from outside." Again, says Warmenhoven, "that's at 50:50," and, "given our growth rate, that shows we're getting it done."

At Yahoo!, human capital management is number one on the company's list of strategic priorities. Human capital management is so important to Yahoo!, says chief people Yahoo! (the company's moniker for chief people officer) Libby Sartain, "that it's one of the key issues our CEO discusses with analysts." This willingness to share human capital strategies and metrics with shareholders, says Sartain, "is what demonstrates a real belief in the power of your people." (For more on Yahoo! and its HR metrics and reporting, see the case study on page 14.)

Finally, it may not be long before publicly listed companies will be required to collect and report relevant metrics on human capital strategies. As an HR-focused executive from Philips explains, "there's a short but growing list of companies that are including this data in their shareholder reporting." Moreover, says the executive, "there was talk recently in the UK that public companies should be required to disclose and discuss these issues in their operating and financial reviews (OFR)." Though the requirement failed to become law, the executive says the issue remains a cause for concern. "Once the chartered accountants start asking for it, and once a few more companies begin to do it on their own, it won't be long before it becomes required."

Measure, monitor and evaluate

The support of senior managers does not preclude the need for rigorous implementation. Here, as the finance director from a small (approximately \$150 million) European tech company explains, it is important to “make this real for your managers. You’re going to talk with them about this and you’re going to evaluate them on their metrics and broader performance in this area.”

Moreover, says the executive, “the discussions should take place at least once a month—there should be more detailed quarterly and annual discussions—and human capital performance should become part of every manager’s performance review. At his company, says the executive, “we’re in our second year of elevating human capital as a management priority—our CEO is 100% behind this.” Accordingly, the measurements discussed with each manager include turnover, progress in the development and training of staff as well as time-to-effectiveness (i.e., the length of time until a new employee is competent in their position).

In addition, the company is renewing its efforts to measure employee engagement. While they have been surveying employees for a number of years, “we’ve become more rigorous, asking many more questions such as are you receiving adequate training, is your supervisor fair and does he follow through on his promises, or do you feel you have opportunities for growth with the company?”

The belief, says the executive, “is that there is a direct linkage between the satisfaction of employees and their quality and productivity.” Consequently, “we’re taking this much more seriously—we view this as a core component of competitive advantage.” Nonetheless, the company is not yet reporting these metrics to its shareholders. “We’re not yet at that stage,” says the finance director. “We will be soon.”

Other interviewees are equally committed to holding managers accountable for the management of their people. At IBM, Senior Vice President of HR Randy MacDonald says, “our belief is that if you focus on the needs of your customers, that will drive your business performance.” But, he adds, “we need people to get that done, so that’s an inseparable component. Managers know they’re being held accountable for developing and retaining talent.”

Yahoo!

Where talent is the top operating priority

Talent, says Yahoo! chief people Libby Sartain, “is our number one priority.” This is the case for a number of reasons. First, “everybody in high-tech, including Yahoo!, is very specialised in their needs and what they have to offer” as an employer. But, she continues, “it’s a limited pool of talent, and everyone is going after the same people.”

Meanwhile, says Sartain, “meeting customer needs, developing the right services and delivering—it’s your people who determine your success.”

So getting the right people and then developing and keeping them, she maintains, become “top operating priorities.”

The Yahoo! ‘brand’

So how should a company go about attracting the required talent? Yahoo! believes it’s important to take a long-term view, one that helps ensure that the right people come in to the company in the first place. As such, the company is very clear on the opportunities available. “What differentiates your company and what is it you have to offer?” asks Sartain. “We look at the whole employment experience as if it were a brand, just like a marketer would do.”

The Yahoo! ‘brand’ of employment, says Sartain, “looks at the big picture then moves down to the individual level. This is who we are; this is what you’ll find here.” From there the approach is, “ok, tell us, is this what you’re looking for and if you were to come here, what do you want to do?”

Different people are excited by different aspects of business and technology, says Sartain. “As we segment the talent, we notice top technology people have different interests and needs.” For example, “some are all about the data and get turned on by statistics and analysis.” In all cases, says Sartain, Yahoo! maps individuals to specific needs. “It’s not a case of joining us and then we’ll figure out what you’ll do when you get here,” a common practice elsewhere, she says. “We like people to have a solid idea of what they want to work on.”

People metrics

Yahoo! manages its talent actively and methodically. For example, once a week Sartain, along with the company’s COO and business unit leaders, meet for a focused discussion that includes performance in people management.

Here, says Sartain, it’s important to have a solid dashboard to help frame discussions. Yahoo!’s people management dashboard breaks things down into three primary sets of metrics:

- Talent acquisition (Who do we need? Who’s come in the door? How long is it taking to fill needs?)
- Retention and turnover (Who’s leaving and why? What skills are in demand externally—will we need to ‘re-recruit’ internally?)
- Employee development (What’s our progress?)

Vitality important in these discussions, says Sartain, is

what she refers to as “colour commentary.” The presentations “are very specific about what’s happening. Perhaps we had a higher turnover than expected in sales or maybe a harder time hiring?” Details “might not show up in a metric,” she explains, “but they’re important for us to hear in order for us to be able to respond.”

Retention is an especially important focus of the discussions. “Because we’ve got all this great talent, suddenly, we’re now known as the place to go and get great talent,” says Sartain. As a result, the company continually relates what’s happening in the marketplace to its own talent pool. “We’re constantly segmenting talent, asking ourselves, who would hurt us most if they left?” she explains. Having identified its most in-demand and most valuable talent, the company then ‘re-recruits’ these people every year or so, reviewing what they’re working on, asking “what is it they want to be doing?” and making certain their compensation levels are competitive.

In general, Yahoo! gathers people data and insight wherever it can be found. For example, the company surveys candidates—whether they’re hired or not—about the recruiting experience. “We also ask people why they’ve stayed,” says Sartain. The answers, she explains, “help us in recruiting, retention and development.”

Can the manager manage talent?*

We often hear clients saying “We have a good talent strategy with supporting processes, but it still doesn’t work”. Defining the “it” is important. The “it” points us to one of the biggest challenges in making talent management real, i.e., management’s ability to manage talent! Reflecting on the research found in this report, executives show little or no confidence in their companies’ abilities to manage talent well. Within the context of constantly fostering innovation and entrepreneurship, managing talent is a truly strategic goal. This challenge is further compounded by the size and complexity of organisations, where operational protocols and stringent policies make it harder to be entrepreneurial and innovative in your management processes.

As the competition for talent intensifies, organisations must rethink the ways they manage their talent pool. The accountability of building and nurturing this strength falls to top and senior management, contrary to the traditional dependency on HR. Identifying and developing those who have leadership potential, and in whose hands we will entrust the future of the business, is a strategic responsibility and a demanding process that is a fine balance between art and science. Consequently, capable managers are the key lever that can either make or break the talent deal.

Companies are beginning to realise that designing impressive strategies and processes is not enough. At best, these can be a means to an end. What they need to focus on is the engine room that will drive these strategies and make it happen. To start with, leaders and managers need to appreciate and acknowledge the personnel and organisational resources they have to fulfil their responsibilities.

Does the following sound familiar?

Management is known for being good at:

- › Operating excellence
- › Technical competence
- › Drive for performance
- › Business results.

Management is not so good (and often uncomfortable) at:

- › Spotting talent and telling them why they deserve that label
- › Providing talent with stretch and encouraging them to take risks
- › Guiding high potentials to take adequate risks in order to grow
- › Measuring high potential through criteria such as ability, aspiration and engagement
- › Having difficult discussions when needed
- › Planning for their successor(s)
- › Developing their next line

Aware but cannot implement

Perhaps your organisation understands the importance of these skills, but is still unable to put this into real practice? PwC is comprised of seasoned professionals who can take your management cadre from awareness to practical application. We offer a range of interventions that help each organisation in their unique context to:

- › Define the skills and competencies required for leaders to manage their talent pool effectively.
- › Use the Voice of Talent to establish criteria that are ‘enablers’ and ‘blockers’ for leading talent.
- › Devise back-up plans where existing managers are not capable to do the role.
- › Recognise and capitalise on differences in leadership style and management behaviours to provide a more enriching environment for talent.
- › Establish a measurement/benchmarking plan to ensure we evaluate progress.
- › Devise performance plans for managers with talent management as a key performance indicator.
- › Clarify roles between HR and management on ownership and implementation.

For more information on how PwC can help your company manage talent, visit us at www.pwc.com/techconnect for links to key human resources and performance improvement challenges, issues and solutions.

Questions for further reflection

Are your human capital practices responding and evolving based on proactive and critical analysis of actual results—or are your practices based more on corporate inertia?

Would you be comfortable sharing your human capital metrics with shareholders, partners or customers? Are there any aspects you would be less willing to share than others? Would this indicate a potential problem?

Is human capital management an HR initiative, a business unit initiative or some combination of the two? How is responsibility shared? What are the mechanisms of collaboration? Who bears responsibility for human capital management and how are their efforts evaluated?

What are you doing to stimulate innovation? Does your organisation encourage responsible risk-taking? What specific examples and practices give you confidence in your response?

How does your business vision and strategy feed through into your people strategy? How does this then feed through into your reward strategy and how does it drive the right behaviours?

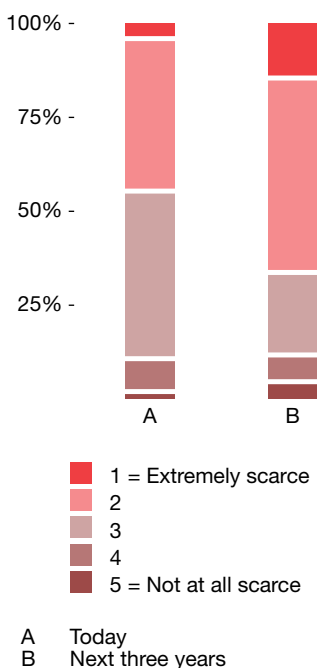


Observation two:

Acquiring hybrids

Executives are beginning to experience a painful scarcity for the essential employee: that talented, technically-savvy individual who can collaborate, innovate and manage change.

Figure 3. How scarce, now and in the next three years, is the talent your company requires?



Supplies of skilled workers are already scarce, but given executives' forecasts, the battle for talent is about to become even fiercer as companies search for the hybrid employee: workers who excel at collaboration, innovation and managing change.

Tight and getting tighter

Technology executives strongly believe that competition for talent in their industry is more challenging than in other industries, a view expressed by 71% of survey respondents. Moreover, 83% say engineering knowledge with creative and collaborative thinking is in short supply. (See Figure 4 on page 21.)

In addition, wherever technology executives look, they see that competition for the right talent is intensifying. In fact, industry executives are expecting a severe shortage in technology talent. According to our survey, 45% say technology talent is either very scarce or scarce today (choosing a '1' or '2' on a five-point scale). But in three years' time, the figure rises to 66%. Moreover, the number of respondents anticipating severe scarcity (a '1' on the five-point scale) rises from 4% today to 15% in three years' time.

The outlook for scarcity varies widely by region and by timeframe. It is European executives, not North American, who are today feeling the wider pinch of scarcity most keenly (again, rating a '1' or '2' on a five-point scale). Fifty-one percent say talent is scarce or very scarce for their companies, compared to 40% of Asian companies and only 33% of North American companies. Over the next three years, the intensity rises dramatically, along with a tightening of the range between regions.

Where talent is scarce

	Overall	No. Amer.	Europe	Asia-Pacific
Today	45%	33%	51%	40%
Next 3 years	66%	66%	63%	73%

% = executives who indicated a '1' or '2' on a five-point scale, denoting talent is or will be 'very scarce' or 'scarce'.

Turning up the scarcity dial

For some companies, defining the availability of talent as simply ‘scarce’ wasn’t enough. Instead, the option ‘very scarce’ was a better descriptor of the situation. Comparing regions solely in terms of those who responded that supplies of talent would be the dire ‘very scarce’, the findings show significant differences today as well as wide swings over the next three years.

Today, it is North American executives who are most likely to describe talent markets as very scarce (‘1’ on a five-point scale). But while their forecasts for the next three years are stable, it is European and Asian executives who anticipate the most severe levels of scarcity.

Where talent is or will be very scarce

	Overall	No. Amer.	Europe	Asia-Pacific
Today	4%	9%	2%	0%
Next 3 years	15%	9%	18%	16%

% = executives who indicated a ‘1’ on a five-point scale, denoting talent is or will be ‘very scarce’.

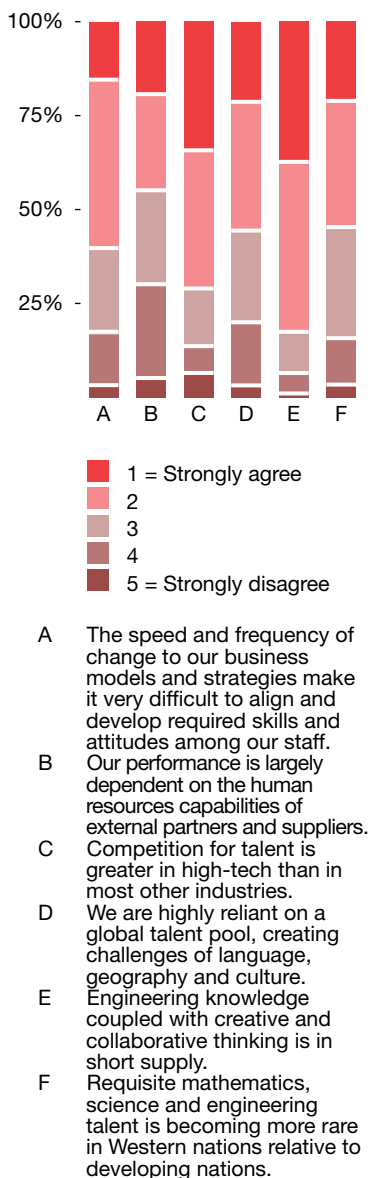
The drivers of scarcity

From Munich to Singapore to Silicon Valley, good people will become hard to find. David Ferrell, director of workforce strategy at the US-based Semiconductor Industry Association (SIA), isn’t surprised by our survey numbers. Based on all he sees, from the “world-trailing” mediocrity of technical education in US public schools and “low numbers of university graduates” in technical fields, to limits on visas for foreign technical graduates, “my forecast is that the [US-based] technology industry is in the early stages of what will become a scramble for talent—not just in semiconductors, but in all the technology industries.”

As Ferrell explains, hiring by chip makers of engineers, technicians and other skilled workers peaked in 2000, declined sharply in 2001, then bottomed out in 2002. But for each of the next three years through 2005, hiring in the industry grew steadily. Today, says Ferrell, “if demand increases even a small amount we’ll be in another talent war.”

As the survey results point out, 83% of respondents strongly agree or agree with the statement that engineering knowledge coupled with creative and collaborative thinking is in short supply. Similarly, 55% agree with the statement that requisite mathematics, science and engineering talent pools in developed nations are drying up relative to emerging markets.

Figure 4. How strongly do you agree or disagree with the following statements?



When options are no longer an option

Talent wars are nothing new for the technology industries. During the Internet-driven technology boom of the late 1990s, competition for software, network and all manner of related technical and engineering skills was feverish. During that epoch, technology companies were expanding rapidly and often used tools such as stock options to attract the skills required. But today, not only are stock options less attractive for issuers owing to increasing regulatory scrutiny, they're also less attractive to would-be employees. Today, says Amy Cappellanti-Wolf, VP of human resources at Cisco, "attracting top talent is a lot less about granting options." While incentive compensation is important, today "it's all about offering interesting work and a growth position. People want to know how their career will unfold." (See "Defining individual careers", page 32 within Observation three.)

With stock options off the table for the most part, companies have to think creatively to meet the looming talent shortage.

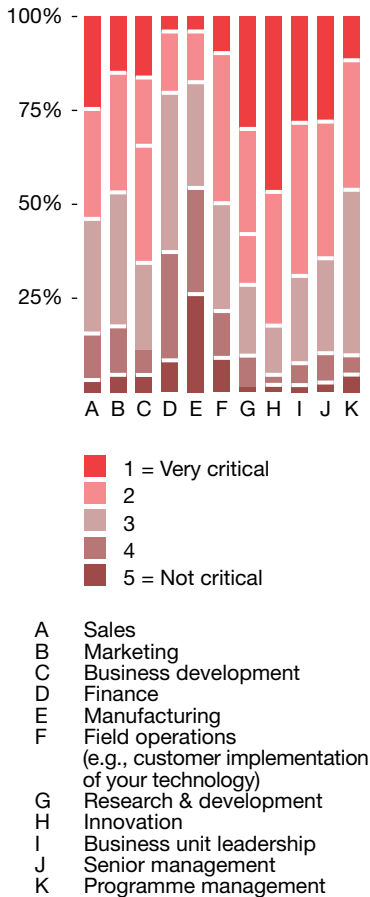
The drying well

The perception today is that the quality of technical education on both sides of the Atlantic is declining (see Figure 4 at left). The US, for example, may have excellent universities, but its public school system receives low marks in mathematics and science from nearly every company interviewed for this report. One executive who is trying to improve matters is Jerry Kissinger, Intel's educational manager for Santa Clara, California. His focus is on building relationships with US public schools. His efforts include attempts to attract more students to study mathematics and science as well as to improve the current curriculum. (See High-Tech University case study on page 24.)

"We're making multi-billion dollar investment decisions as to where to locate semiconductor factories," he explains. But looking at locations in the United States, "what we just don't see are the public schools delivering enough students who are competent in mathematics and science." In turn, he continues, "this limits the number of university engineering and technical or science degrees, which doesn't give us confidence that there will be enough of a talent supply for the future." As a result, says Kissinger, "we're either going to have to import this labour, or locate somewhere else."

A senior HR executive of a large technology division at Germany's Siemens AG shares this view. "Even with so much unemployment in the EU and in Germany," he explains, "for technical degrees, things are becoming more competitive. We are having greater difficulty—experiencing a longer time to hire for qualified graduates and especially for more senior positions." In addition, "we are also working harder to keep the engineers and technical staff we already have." For example, "we've had competitors hiring some of our top people, which I had not seen so much [of] these past several years."

Figure 5. Which broadly-defined job descriptions are the most critical in terms of attracting and retaining staff?



Other managers in Europe expressed similar concerns. An HR executive at a UK technology company with nearly \$2 billion in annual sales says the problem in Europe isn't the number of graduates but their quality. "There are a handful of top-shelf European universities for the most advanced degrees and then dozens that are mediocre at best."

The problem, he believes, is "that there are too many universities concentrating on the same things, so none has the resources to become truly excellent." By comparison, he says, "US universities tend to focus their curriculum rather than try to compete in everything and that's why they can then deliver an exceptional education. So yes, we're already experiencing a talent shortage—the time required to fill positions is on the rise and many positions are not being filled at all—and our expectation is for this to become worse over the next few years."

As the HR manager in Europe for an American software company explains, "the number of applicants isn't falling, but truly qualified applicants? That's another story. Demand for the best is rising, so [the number of qualified applicants to his/her company is] on the decline."

In any case, says SIA's Ferrell, there is one element of any potential talent war that will be different from that of the 1990s' dot-com boom. Today, says Ferrell, "the competition for scarce resources is broader than before with many international companies vying for talent worldwide." In essence, talent markets are globalising.

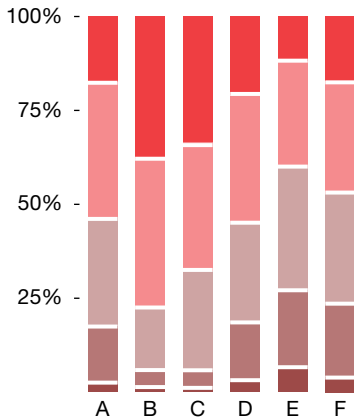
Who's in demand?

In terms of the skills in greatest demand, survey respondents say the most sought after is the ability to innovate—turning new ideas into new products and services. This talent is regarded as 'most critical' by 47% of the overall sample. (See Figure 5.) And the problem is greatest in finding people who are both innovative and technically trained: 38% say they strongly agree that is hard to find innovative engineers. (See Figure 6 opposite page.)

The ability to innovate, says Cisco's Amy Cappellanti-Wolf, "is one of the hardest skills to acquire." In general, she explains, "lots of engineers have technical ability, but finding that along with the ability to collaborate and innovate and create new products is a real challenge." IBM's SVP human resources, Randy MacDonald, agrees, saying "those are the people everyone wants. They can be hard to find and once you have them, if you don't give them the right opportunities and support, they can be hard to keep."

As for the positions that are most in demand, the list includes R&D talent (30%), business unit leadership (28%), senior management (28%) and sales personnel (25%).

Figure 6. In terms of research and development activities, how strongly do you agree or disagree with the following statements?



- 1 = Strongly agree
- 2
- 3
- 4
- 5 = Strongly disagree

- A We have difficulty finding qualified technical engineers.
- B We have difficulty finding innovative engineers.
- C We have difficulty obtaining the skills we require at an affordable cost.
- D We have difficulty retaining R&D talent.
- E We have difficulty finding R&D talent in emerging markets.
- F We have difficulty retaining R&D talent in emerging markets.

Finding talent is just half the battle

Of course, finding talent is not the only issue. Technology organisations are similarly struggling with a wide variety of additional human capital challenges. The full range of issues, as prioritised by survey respondents, includes:

- > Identify/develop/retain high performers (90%)
 - > Recruit high-potential personnel (78%)
 - > Stimulate innovation (76%)
 - > Provide training and development (72%)
 - > Protect intellectual property (69%)
 - > Align compensation and performance metrics to corporate strategy (66%)
 - > Promote collaboration across business units (62%)
- % = the number of respondents rating the challenge as vitally important or important, '1' and '2' on a five-point scale respectively.

These and related issues are discussed in the remainder of the report.

If the schools aren't getting it done, do it yourself

It's generally accepted—and easily supported—that public schools in the United States are not as effective as those in Europe or even Asia in terms of delivering adequate mathematics and science education. But according to Lisa Anderson, VP and secretary at the industry association SEMI (Semiconductor Equipment and Materials Institute), there's a fundamental problem in schools not just in the United States, but around the world.

"Schools in general do not support the needs of career exploration," she explains. "The emphasis is on getting kids through the programme, with very little emphasis on what's in the programme or how it relates to the future for these kids." In the United States, says Anderson, "the curriculum isn't all it should be," but worldwide, she insists, "there's no practical emphasis on how the study of mathematics or science can lead to a career."

High-Tech University

SEMI has a mission to improve education and raise the quality of the technology workforce, and to do so it runs what it calls its High-Tech U. The programme, says Anderson, "shows kids what high-tech is all about, shows them the relevance of mathematics and science, and helps reveal the future that could be available to them."

High-Tech U is essentially a curriculum designed for young students in their early teens. The three-day programme enables a group of 30-35 students to visit and learn at a sponsoring company's facility. The students, Anderson explains, are recruited from schools with an interest in the programme. "They're not necessarily the ones with the highest grades," says Anderson. "What we're looking for are people we can reach and inspire."

The teachers come from the sponsoring technology

companies. "A lot of technology people are born teachers," says Anderson. "We ask for people that have passion and that are fun." In addition, "we look for diversity, with the underlying message being you're going to be part of a diverse team." As for the curriculum, "we provide a set of ready-to-go modules," says Anderson. All, she explains, emphasise team work. "Every student has a partner, and then they get involved in a series of experiments and problem solving."

Intel's educational outreach

Intel sponsors High-Tech U at five of its manufacturing sites. High-Tech U, says Kissinger, "helps students see the value in learning more about science and mathematics. It shows them these are exciting careers and that they're not out of reach."

The first step in Kissinger's job is finding schools with an interest in participating. "We find what's key to success is

administrators and faculty that are immediately receptive—if we have to push this onto a high school it’s not worth pursuing.” Moreover, Intel takes the long-term view with these students. For example, “We have an alumni programme that brings the students back,” he explains. “If we’ve sparked their interest, they can learn more.”

As for the payback to Intel, “that’s not what this is primarily about,” says Kissinger. Given the scale of the education problem in public schools throughout the United States, “this is a very small initiative.” But, says Kissinger, for the kids the programme is able to reach, “it can make all the difference in the world.”

Still, there are benefits to Intel and to the technology industry in general. “This raises awareness among city council members and other legislators,” says Kissinger. “If a company like Intel believes

there’s a workforce problem, and is doing something like this to try and solve the problem, maybe public policy shapers will take an interest as well.”

Outreach programmes such as High-Tech U can’t solve the educational crisis on their own. “It’s like trying to boil the ocean,” says SIA’s David Ferrell. Still, he insists, “that doesn’t mean you shouldn’t try.” Numerous companies in the semiconductor industry are using outreach programmes in schools and partnerships with community colleges and universities to try to improve curricula, he explains. The benefits include “increased awareness of the problem and, in some cases, an improved fit between the company and the people it hires.” For example, “internships are great. You find out if someone is going to fit in with the culture or not.”

Regardless of the payoff, Ferrell says there’s a long and growing list of companies in the US semiconductor industry

who are active in partnering with schools and universities. “They spent over \$250 million in the last three years alone,” he explains, according to his group’s survey of member companies.

A partial list of active companies who partner with schools and universities includes:

- > Advanced Micro Devices
- > Agere Systems
- > Analog Devices
- > Conexant Systems
- > Freescale
- > IBM
- > Intel
- > International Rectifier
- > LSI Logic
- > Micron Technology
- > National Semiconductor
- > Qualcomm
- > Texas Instruments
- > Xilinx

Managing the scarcity of talent*

Beginning with the talent wars of the late 1990s and compounded by the recent global shift towards reliance on offshoring in other parts of the world, there has been a fundamental shift in the sourcing and definition of both the location and skill set of talent for the technology industry.

In today's business climate where growth is largely a product of creative and technological advancements, it's not just people who are the most valuable asset, but the right people. Acquiring the right talent seems to be the strongest lever in delivering desired success. A number of strategies are in place—best of breed reward programs, expanding outreach programmes, outsourcing and offshoring to tap into a larger talent pool, investing in individual development—but how effective are these strategies and are they working?

Do you have an issue with talent acquisition? You probably do if some of the following sound familiar:

- > Acquisition strategy in place but execution is still a problem
- > The traditional skills criteria don't fit—so who are we really looking for?
- > Expensively acquired talent not reaching their full potential
- > Talent difficult to keep once you have found them
- > Ability to innovate is one of the hardest skills to spot and acquire
- > Difficulty in acquiring different categories of talent (critical positions, mission critical, technical and succession priorities)

Talent management—What is right for you?

Before investing significant resources (time, cost, money) to fix the problem, we advocate taking a closer look and better defining the problem. Each organisation has distinct strategic goals, and there can be no one-size-fits-all solution to solving the problem. It is important to start with defining your individual landscape on talent. PwC has been working with clients using a modular approach to talent management, involving seven steps:

1. PwC talent management health check (diagnostics); high-level analysis of current situation of talent management and recommendations for further analysis
2. Developing the talent strategy and definition; agreed and documented talent policy, definitions, clear differentiation of talent pool(s), key positions, critical roles and future skills
3. Measuring “as is”; a talent scorecard for your organisation benchmarked against the market
4. Voice of talent and executives; feedback reports outlining strengths and areas for improvement around the talent process which helps prioritise key action areas
5. Talent process review; in-depth analysis of key talent processes and team structure backed up with cost analysis. Recommendations for improvements, efficiencies and potential cost savings in respect of current processes
6. Recommendations, blueprint and high-level implementation plan; current state assessment report detailing key findings, prioritised recommendations and high-level implementation plan including key milestones and high-level actions
7. Implementation; organisation-wide understanding and buy-in to the talent management model, integration with performance management, process training and process evaluation.

Optimising your existing talent as well as finding the right type of new resources represents a key part of overall talent management. PwC's Health Check is a good start towards benchmarking your company's success, the end game of which provides a good framework for identifying what specific actions need to be taken and how key senior stakeholders can address the issues.

For more information on PwC's health check diagnostic and other solutions for managing the scarcity of talent, visit us at www.pwc.com/techconnect for links to our HR solutions resources.

Questions for further reflection

Is scarcity of talent an issue for your company? How about in three years? Under what conditions would scarcity become an issue for your company?

Does your company have a mechanism for evaluating the causes of attrition? Would your company be able to detect trends in defection? Could they do so in time to respond effectively?

Is your company partnering with schools and universities to promote a curriculum relevant for your business in the communities and nations where you do business? Do you promote internships? Why or why not?

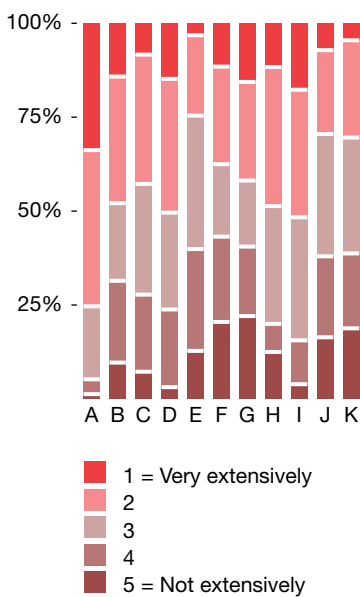


Observation three:

Harvesting talent from within

Technology companies worldwide are focusing on personnel development and training and, by inference, on the retention of new hires and existing personnel.

Figure 7. In the next three years how extensively will you rely on the following sources of human capital for your company?



- A Development/training of new hires and existing personnel
- B Recruitment from top schools
- C Recruitment from other industries
- D Recruitment from competitors
- E Recruitment from partners
- F Recruitment from overseas
- G Offshoring (moving existing operations to developing nations)
- H Outsourcing (hiring specialist companies to perform certain tasks)
- I Partnerships/alliances
- J M&A
- K Joint ventures

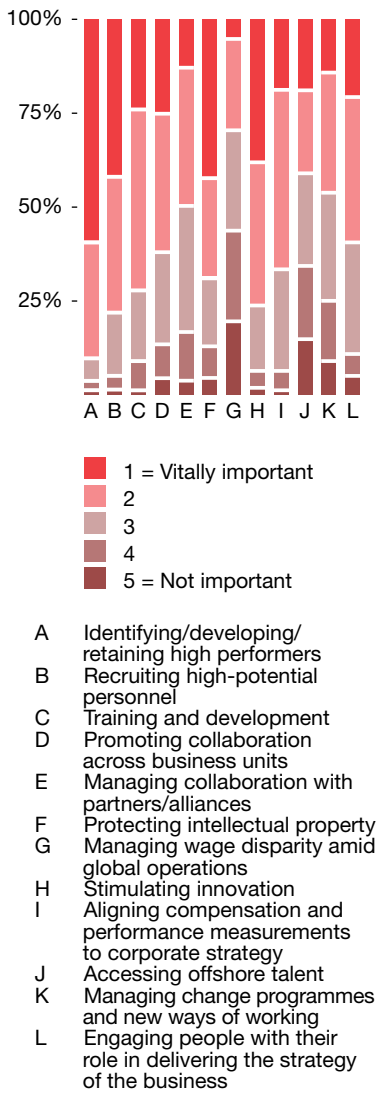
If a talent shortage looms, where and how will technology companies find the talent they require? The answers reveal as much about the available sources of talent as they do about technology companies' growing sophistication in managing human capital.

Asked how extensively they will rely on a broad range of talent sources over the next three years, the number one strategy, cited by three quarters of respondents, is the development and training (and by inference retention) of new hires and existing personnel. Moreover, 34% say they will focus on these areas extensively—and in both cases, there are virtually no significant geographic variations. The conclusion is this: companies the world over have determined it makes more sense to emphasize keeping and developing existing talent as opposed to continually competing for new talent.

Though retaining and developing existing talent is their favoured response, this by no means indicates companies are eschewing other sources. For example, accessing talent through partnerships and alliances, at 52%, is still a significant practice. Moreover, additional, extensively pursued sources of talent include:

- > Recruitment from competitors (50%)
- > Outsourcing for specialist skills (49%)
- > Recruitment from top schools (48%)
- > Recruitment from other industries (43%)
- > Offshoring (42%)

Figure 8. How important are the following issues to your company?



Development for all

The focus on development/training/retention is borne out in virtually every interview conducted for this report. As Andy Esparza, VP global HR services at Dell, explains, “we have a pronounced focus on development programmes.” Part of the emphasis is on identifying potential high fliers. But at the same time, says Esparza, no Dell employee will ever be left behind. “Managers are expected to provide development for everyone they manage,” says Esparza. In fact, the “saying at Dell,” he explains, is “development for all, but great development for some.” (More on Dell’s programmes below.)

The survey provides strong evidence that other companies believe they will succeed by taking approaches similar to Dell’s. For example, 90% of respondents say that identifying/developing/retaining high performers is very important, by far the highest ranked strategy among a broad array of human capital management issues and techniques. Identifying and developing existing talent, the survey shows, is even more important than recruiting people with high potential (77%).

The qualitative interviews suggest there is a consistent pattern among leading technology companies. At Dell, for example, human capital initiatives begin “with a detailed forecast of our growth and expansion plans,” says Esparza. Next, “we compare the talent we have with the talent we’ll need: who is ready to move, who is accelerating, where are the gaps?” he says. In this way, “we’re being a lot more clear and prescriptive on where to get talent, where we’ll need it and when.”

Development, says Esparza, is the responsibility of every manager in the company, an approach which effectively cascades downwards, reaching every employee in the company. Says Esparza, “we hold leaders accountable for providing robust development for every team member.”

But in addition Dell pinpoints certain candidates for even more rigorous development. “This company is a meritocracy,” explains Esparza. Consequently, picking the most deserving people for accelerated development is built on tangible performance measures. “There’s lots of statistical data in a person’s performance evaluation,” he explains. “We look at the history of individual bonus modifiers, stock modifiers, performance ratings, experiences, and the trends.” Ultimately, says Esparza, “it becomes a nomination process: managers nominate their people and senior managers review the candidates and make the decisions.”

From there, the company emphasises exposure to specific challenges. “Our bias is that 70% of learning is through real-world experience.” So candidates with high potential are given broader job content, are rotated through jobs and receive formal mentoring. In practice, says Esparza, one of the goals is to have fully experienced people ready at any time to replace the person above them. “If we manage these transitions correctly, we have perfect overlap from incumbent to incumbent.”

10 tactics for improving performance through human capital strategies

- 01 Identify, retain and develop high-potential and key performers
- 02 Highlight human capital metrics in monthly management discussions and all performance evaluations
- 03 Create cascading succession plans by holding all managers accountable for the development of their reports
- 04 Evaluate the effectiveness of your career development efforts—and continuously refine your practices
- 05 Begin developing strategies for retaining the knowledge and capabilities of the oldest members of your workforce
- 06 Brand and promote your employment ‘experience’
- 07 Form partnerships with schools and universities
- 08 Gauge employee satisfaction, address shortcomings and track progress versus other metrics such as quality or customer satisfaction
- 09 Discuss individual career paths annually, create personalised development plans then track progress
- 10 Engage professional advisors to optimise your HR strategies

Are Dell’s investments in development paying off? Here, says Esparza, the jury will be out for some time into the future. “Most of our returns here are still TBD,” he explains. But “that’s okay, because what we’re looking for isn’t short-term gains, it’s long-term trajectory.”

Still, the company is keeping close watch. For example, once employees are in an accelerated development programme, “top management spends time validating that these are still the people we want to invest in,” says Esparza, “and that they’re making progress.”

Another perspective on development

The spokesman for a large Asia-based technology company offers another view on proactively managing talent in an organisation. According to the executive, “we ask our business units to think about what talent they have today and then project their talent needs out to 9 months, 15 months, 24 months and 36 months.” Unquestionably, “because markets and technologies move so fast we put more belief in the nearer assessments.” Nonetheless, says the executive, “longer term projections are valuable because they help us to think strategically about our hiring, our development and our succession planning throughout the company.”

In addressing perceived gaps “our bias,” says the executive, “is a focus on development first and then hiring second.” Given this bias, the company views all employees as a work in progress. “Our philosophy is that everyone is in training to move on. The only question is who will move where and that depends on their skills and their career objectives.” The company then attempts to “identify those who might be able to address our projected gaps and then skew their experiences and development to improve their chances of being successful in a new role.”

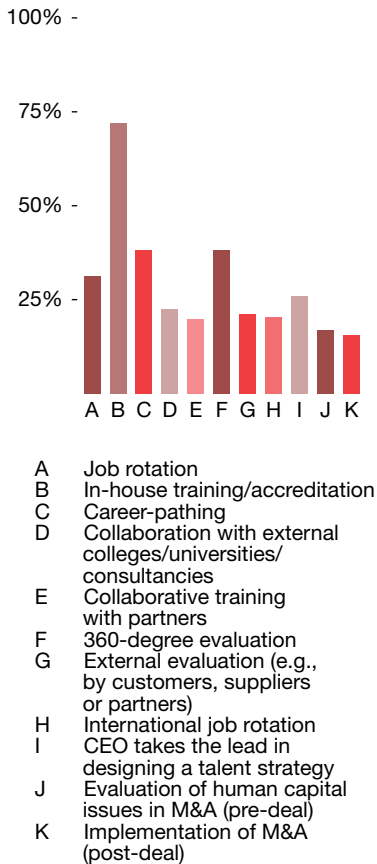
Development, says the executive, “might take the form of rotational assignments, formal training, mentoring or even geographic reassignment.” But “the point is, we discuss this with the employee, and we say, this is where we think the business is moving—are you ready and if you’re not ready, how can we get you there?”

Defined gaps are sometimes technical in nature. In these cases, “we might, as an organisation, look more closely at partnering or acquisition.” So from a development perspective more emphasis is placed on managerial competence. “We try to move managers through a path of increasingly greater responsibility. Here, says the executive, the company seeks to identify and develop talent through a series of stages, including:

- > The ability to work in small teams
- > The ability to lead small teams
- > The ability to lead groups of teams
- > The ability to lead entire business units

Of course, says the executive, “the ultimate goal is developing the ability to motivate and manage at the enterprise level.” Still, “we watch all of these stages closely, because deficiencies can arise almost anywhere—and it is better to know this ahead of time.”

Figure 9. Which of the following human capital management activities are significant practices at your company?



Defining individual careers

Comprehensive, institutionalised recruitment, retention and development programmes like those above are becoming more common in the technology industry—they are in evidence to varying degrees at nearly all companies interviewed for this report, even at small companies.

But a closely related trend gleaned from both the survey and interviews is the growing propensity to treat each employee as an individual.

“Certainly, training and development need to be individualised,” says Cisco’s Cappellanti-Wolf. But increasingly, broader relationships with employees—both existing and prospective—are being based on individual needs, capabilities, career objectives and interests. For example, the survey shows that 38% of companies say that mapping out a career path is a significant practice at their company. In terms of interviewees, the frequency and importance of this practice is even higher—setting a career path was described as a core practice at virtually every company interviewed for this report.

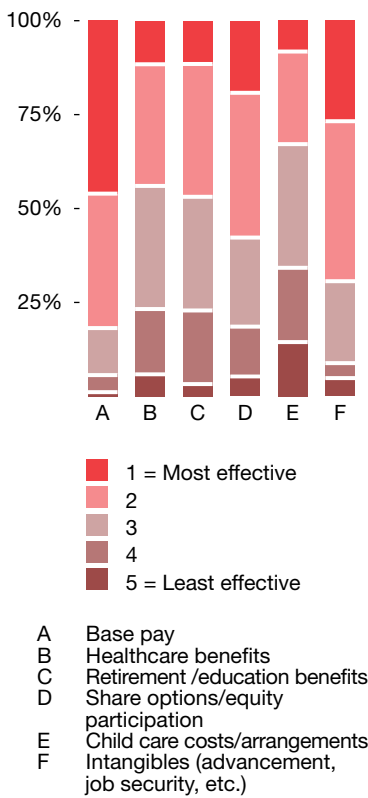
The establishment of a career path, says IBM’s MacDonald, “is a process where you sit down with an employee to review or map out the career choices available to them.” According to MacDonald, “that’s invaluable because today, you have to treat people as individuals.” For example, he continues, “you find employees that get excited by a particular set of technologies, not necessarily a single company—so they’ll switch companies without switching what they work on unless you can help them see why there’s no need [to change firms].” Agrees Libby Sartain, HR director at Yahoo!, in many cases “you’re re-recruiting the people you have. You have opportunities and they have career objectives, so we compare the two and sell them on where they can go at Yahoo!”

In developing and presenting a value proposition to new recruits, it is important to follow through. As Gwen McDonald, SVP human resources at Network Appliance, explains, “I heard an interesting story the other day about a company that was losing its employees about a month after their orientation.” As it turns out “their recruiting process was selling something that was very different from what the company actually had to offer.” That, says McDonald, “is something you have to be clear on. You have to know what you have to offer in order to be able to deliver.” Adds (Cisco’s) Cappellanti-Wolf, “the important thing is to have in-depth development and evaluation discussions with everyone—and honesty in longer-term career discussions.”

In a competitive, technology labour market, providing personalised development programmes in accordance with desired career paths are essential requirements in order to retain talented employees. But from there companies need to follow through to execute their human capital management on an individualised basis. Again, the survey provides an indication of the degree to which technology companies are using such practices.

For example, 31% say job rotation is used significantly at their companies. Thirty-eight percent employ 360-degree performance evaluations and 21% include perspectives from external customers, suppliers or partners.

Figure 10. In the next three years, how effective will the following elements of compensation be in terms of attracting and retaining top performers?



Compensation 101

A critical component of any recruitment or retention effort is compensation and benefits. Here the survey tests respondents' sense of the value of various relevant components.

Focusing solely on most-effective components (those who scored the component as a '1', the highest rating on a five-point scale), base pay remains the single most important element, cited by 46% of respondents. From there, at 27%, intangibles are considered the second most critical component. Again, this includes such elements as setting a career path, development, job security and even workplace flexibility (see below).

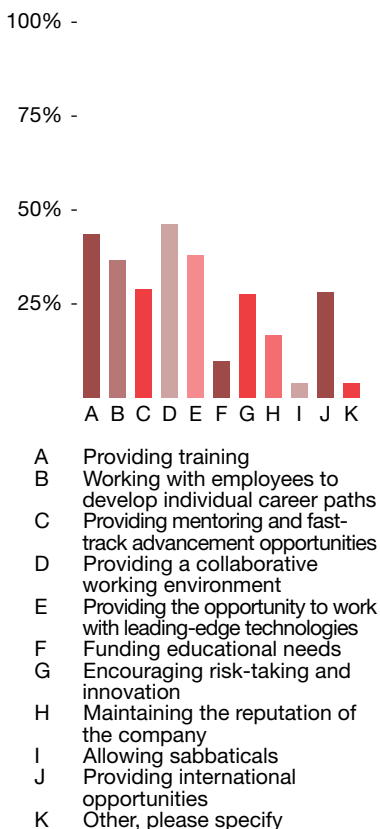
At number three, 19% of executives view share options and equity participation as a highly effective tool for recruitment and retention, followed by healthcare benefits and retirement/education benefits (at 12% each). Says Network Appliance's McDonald, "you don't want to pay at the top end of the scale for every employee, but you do have to be competitive." Sartain agrees, adding, "that's especially true for your most valuable employees."

The most effective components of compensation

- > Base pay (46%)
- > Intangibles (27%)
- > Share options/equity participation (19%)
- > Healthcare/retirement benefits (12%)

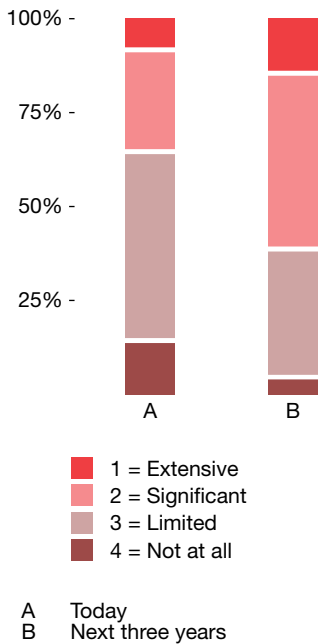
% = executives indicating the benefit as highly effective or a '1' on a 1-5 scale.

Figure 11. Excluding financial compensation, which of the following do you believe are your company's most effective means of rewarding, motivating and retaining talent? Select up to three options.



Excluding financial compensation, the survey concludes that the most effective intangibles include the provision of a collaborative working environment (46%), training (44%), access to leading-edge technologies (38%), career pathing (37%), mentoring (29%), international opportunities (28%) and encouraging risk-taking and innovation (28%).

Figure 12. We define outsourcing as hiring specialist companies to perform substantial tasks such as administration or customer support for your business. To what degree does or will your company make use of outsourcing?



Outsourcing and partnering

Beyond internal staff development, another means of obtaining talent is to ‘hire’ another company’s talent. Today, 36% of companies say they have significant outsourcing relationships—with 8% describing these as extensive. But over the next three years the figure rises significantly: 61% of companies will have significantly outsourced processes, with 15% of companies describing these relationships as very significant.

The perceived benefits of such arrangements are myriad. At the top of the list is reduced operating costs, cited by 70% of respondents. But it is noteworthy that the benefits for human capital management are also in evidence and include:

- > Acquiring engineering skills at a lower cost (63%)
- > Increasing flexibility (62%)
- > Acquiring customer-support talent at a lower cost (46%) except in Europe, where it was considered less important
- > Acquiring engineering skills that are otherwise unavailable (45%)

Also of particular note: companies are more likely to favour offshoring (16% say they will do so extensively) to recruitment from overseas (used extensively by only 12%). (For more on offshoring, see Observation four.)

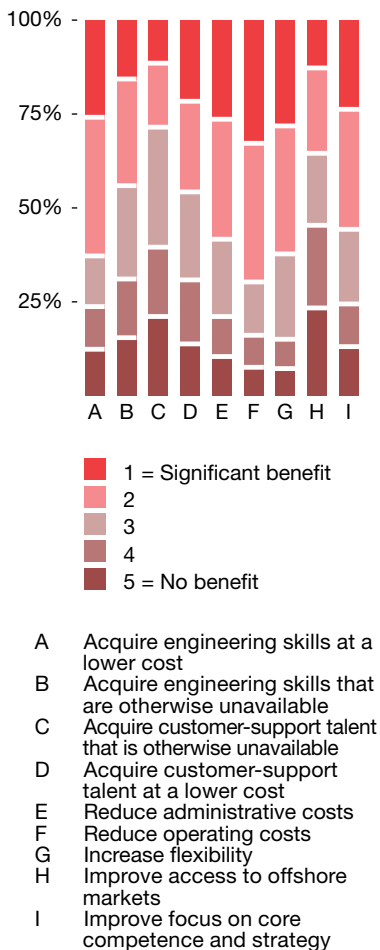
Partnerships

Yet another potential source of talent is collaboration with partners. Half, 50% of respondents, indicate that this is one of their most critical human capital challenges.

For example, as Amy Cappellanti-Wolf, VP of human resources at Cisco explains, “we rely on partners and outsourcing for a great deal of our supply chain and many of our technicians.” From a human capital perspective, says Cappellanti-Wolf, “that means we have to make sure our partners are sufficiently transparent so we can be assured that their culture and practice is aligned with our strategy and business plan—and that they’re adequately resourced.”

Greater transparency in human capital practice among partners appears to be a growing trend. As the HR director of a mid-sized (\$500 million) US-based technology company explains, “we’re fielding more questions from potential customers about our HR practices—and they’re getting very specific.” For example, “we’re being asked about our metrics—what’s our retention, do we have adequate coverage in key positions or what are we doing about staff development?” The executive says, “we knew these ideas were important, but we didn’t start treating them as priorities until we began to realise how important these issues are to our customers and partners.”

Figure 13. What benefits have you obtained or do you expect to obtain from outsourcing?



Career models empower at Microsoft

Microsoft believes in hiring the best and brightest and then optimising the productivity of its global workforce. According to Tanya Clemens, corporate vice president, people and organisational capability, “Our human capital goals have remained unchanged since our inception.” However, she explains, “the challenges have changed.” So, given dwindling US graduation rates of computer science majors, and globalisation, what the company is doing is making “significant changes in our approach to career development, performance management, workplace environment and employee support services and compensation.”

Liberation through definition

Over the past few years, the company has done considerable work in defining career paths for all its ‘professions’ and ‘key disciplines’ which, according to Clemens, “is a huge advantage” in competing for talent. “Being explicit in the career paths open to our employees and what it takes to move along that path,” says Clemens, “has been embraced by our employees and recruits as amazingly empowering and liberating.”

She says that the company is refining a management model that will address a range of what the company considers to be critical human capital concerns. Known as the Career Models framework, Clemens says this “seeks to provide an integrated answer” to three key talent management questions:

- > What differentiates outstanding performance from typical performance today and what will differentiate these in the future?
- > What are the career stages through which individuals in a profession/discipline grow—and what are the changes in the factors that differentiate outstanding performance from typical performance?
- > In the context of those who’ve been extremely successful within their professions/disciplines what have been pivotal events/experiences that enabled the employee to learn something significant?

These and related issues are explored with every manager in an annual performance review process. In addition, says Clemens, “we have an annual career development process that entails a focused

discussion between every manager and employee about their professional development and career growth.”

Here, the Career Models framework is the foundation of these discussions “allowing us to be far more intentional about development and career moves at the company,” says Clemens. “We developed these questions through extensive and rigorous research—done largely through our own People Research team and their internal and external partners.” The work, says Clemens, addresses a host of areas that are strategic to our human capital approach—from talent identification, assessment, development and deployment, to larger domains such as leadership development, and the employee value proposition.”

In the future, says Clemens, “we expect this framework to be a key integrator across all our HR systems and achieve, among other things, a highly leverageable and reliable way for Microsoft to attract, grow and retain talent.”

Hiring and cultivating talent*

Clearly, high-calibre talent is the critical competitive edge of a technology company and hence identifying, retaining and developing such talent is perhaps one of the most challenging aspects of managing the technology business. So, what are the best ways to be on top of this challenge?

Hire the best talent

What kind of talent is attracted to your organisation and will this kind of talent give your company the competitive edge you need? The perception about your brand — what your current and past employees say about you — determines significantly the quality of talent that comes to you. Does your organisation employ more of the kind of employees that you wish to attract? Do you have a culture that employees desire? Are your career, reward and development practices perceived to be attractive by the talent that you wish to hire?

Altering the perception of your brand can be a slow process; however, companies need to invest in building their 'Employer Brand' at select points of hire:

- > recruiting for entry-level on campus
- > utilizing high-quality search firms
- > matching talent-quality with outsourcing

Develop and retain the best talent

Once they manage to attract the talent, companies frequently face challenges at two levels:

1. Continually helping their people focus on delivering business results

The clarity of role and expectation of performance paves the way for building the focus for delivery of business results. As technology professionals usually work in teams, managing performance of each team member effectively is indeed difficult. Clear definitions of role, performance metrics and effective performance feedback mechanisms help in addressing this issue. Further, it takes leadership capability in the executives who manage these professionals to use these mechanisms effectively in assuring delivery of business results.

2. Continually engaging their people by addressing their career rewards and development needs

Not every employee has the same capability. It is vital to manage the high performing and high potential talent. Performance evaluation and employee assessment are used by organisations to identify such key talent.

Experience suggests that placing high potential talent in key roles, offering effective pay programmes, career opportunities and planned development inputs go a long way in retaining such talent. But this on its own is not sufficient. It is important for people to actually experience that these programmes actually work. Strong leadership capability in managing this workforce becomes the most important link through which this experience is created. The HR function works in tandem with leadership and their business heads to ensure effective deployment of these programmes on the ground. Further, human capital metrics must be employed to measure the effectiveness of this deployment at every step of the way.

It is critical to identify the specific challenges in your organisation and employ effective methods to manage them. PwC, via its Saratoga service offerings, helps HR departments and executive management quantify and maximise the value of their people by applying a rigorous evidence-based approach to workforce and HR decision making. Solutions include:

- > Consulting services to ensure measurement efforts are tied to corporate objectives
- > Global and regional human capital and HR measurement
- > Engagement Intelligence research programme to help identify opportunities to improve retention, production and financial performance

For more information on Saratoga, a PwC offering for human capital measurement, benchmarking and strategic application of human capital information, please visit www.pwc.com/techconnect.

Questions for further reflection

How effective are your efforts in employee development? How do you know you are providing the right experiences for the right employees? To what degree do you hold executives accountable for developing their reports?

How do you know whether or not you will have the talent you need?

How “individualised” is your employment experience? Do you structure careers to take advantage of individual strengths and weaknesses?

What is your company’s compensation strategy? Do you focus on retaining high-value employees? Do you pay ‘below market’, ‘at market’ or ‘above market’? Do you develop specific compensation strategies for specific positions? Why or why not?

If a career in your company was to be described in terms of a brand, what are its principal attributes? Does your brand hold sufficient appeal? What simple steps might be taken to improve the appeal of your employment brand?

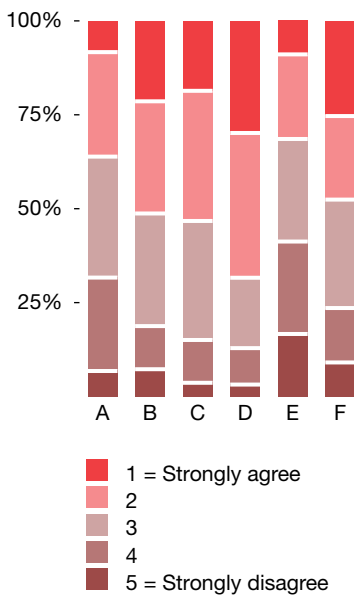


Observation four:

Global markets and global talent

Nearly half of all technology companies say they have difficulty finding technical talent in emerging markets, and just under half say these difficulties include the retention of skilled people around the globe.

Figure 14. How strongly do you agree or disagree with the following statements?



- A Over time, senior human capital managers often become advocates for employees as opposed to advocates for the company at-large.
- B The most effective senior human capital managers in our industry have extensive non-HR experience.
- C It is vital to rotate non-HR managers into senior human capital management positions on a regular basis.
- D The most effective human capital strategies are devised and implemented by business units themselves, as opposed to a central HR function.
- E An ageing workforce presents one of our greatest organisational challenges.
- F Managing a global workforce presents one of our greatest organisational challenges.

Companies say they need to improve their capabilities in managing a global talent pool. While they're working on this, they will also need to evaluate their pursuit of offshoring as well as evaluate their people management strategies in emerging markets. According to the survey and interviewees, none of this is easy.

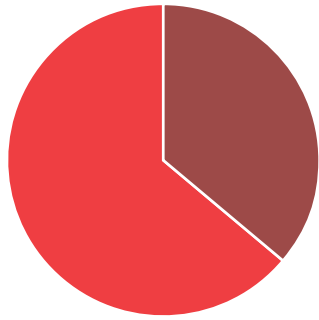
Accessing global talent

A handful of questions in the survey highlight the global nature of the technology industries. For example, according to the survey, 48% of executives say managing a global talent pool is one of their greatest organisational challenges.

Meanwhile, 55% agree, 21% strongly, that they are reliant on a global talent pool. (See Figure 4 on page 21.)

In addition, when asked which statement best describes their companies' approach to managing global opportunities and talent, 37% say they tend to shift their capital to develop operations wherever talented people exist—clearly indicative of a global view.

Figure 15. Which of the following statements best describes your company's approach to managing global opportunities and talent?



- 36.36% We move our capital to develop operations where the talented people exist.
- 63.64% We move our talented people to where our capital, operations and opportunities exist.

The allure of a flexible, collaborative, global workforce is being pursued by virtually all companies interviewed. For example, as IBM's MacDonald explains, "our workforce is absolutely global, and we manage it that way." In IBM's case—as is the case in a growing number of examples—database technology is one of the enablers of global collaboration. As MacDonald explains, "we have more than 70,000 people who have an HR profile online." These profiles, says MacDonald, are updated regularly in order to reflect working experiences and skills. So now, "if a person working in Poland has a major service contract they're trying to win and they need to find certain expertise and skills, they can go to the Professional Marketplace," IBM's name for the system. "They plug in, this is the problem I have, these are the skills I need, and then in a matter of seconds they can see the available resources from around the world."

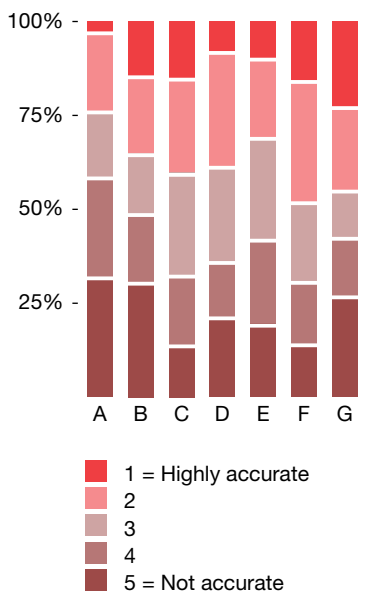
But more important than the database of skills is the organisational commitment to a more flexible allocation of global people assets. In short, companies are looking for ways to improve collaboration across skill sets and time zones. This is in fact IBM's goal, but it has a long way to go. "It's not perfect," says MacDonald, "but we're becoming more effective all the time. We're working to create a virtualisation of our global workforce."

Desiring a global workforce is one thing; attaining it is another. For example, one set of problems for a large European technology company with operations throughout Asia and Latin America is compensation. As the company's regional CFO for Asia-Pacific explains, this is a multi-faceted challenge.

First, says the executive, "compensation levels in many of the emerging markets are increasing, to the point where we no longer view India and now even China as necessarily low-cost countries." Looking at the total cost of operations, which the executive says "includes high levels of staff development costs but yet we still have worker turnover; they're expensive." In fact, "our operations in India and China are already looking at offshoring to Indonesia and, believe it or not, Vietnam." (Almost all interviewees acknowledge that costs are rising steeply for technical talent in India and even China—see emerging markets below.)

Second, the executive says that the mobility inherent in his company's business model creates real headaches. "A (technology) worker or even a salesperson in China is not compensated in the same way or at the same levels as his counterpart in Japan or Australia." The lack of harmonisation amid so much mobility, says the executive, "makes it much more difficult to move individuals to where they deliver the most value—or for only short periods—and it can create a lot of resentment. It requires a great deal of management effort."

Figure 16. How accurately do the following statements describe actions taken, or soon to be taken, by your company?



- A We acquire companies to obtain talent.
- B We move processes/operations offshore to access talent.
- C We increasingly require non-compete agreements from staff (in addition to ones from business unit leaders and senior managers).
- D We partner with schools/universities/consultancies to improve curricula.
- E We partner with schools/universities/consultancies to execute internal training.
- F We use certification to enhance the value of our training and development offerings.
- G We have moved processes/operations offshore to reduce costs.

Microsoft provides another example of a company that is pursuing a global talent strategy. As Tanya Clemens, corporate vice president, people and organisational capability explains, “Our recruiting strategy has always been to seek and hire the best and brightest in our industry, wherever they may be.” Microsoft, she says, has a long history of hiring technical and business talent from universities around the world. Moreover, she says, the company makes great efforts to deploy its talent globally. For example, says Clemens, “Our investment in software development centres around the world is a specific example of how aggressively we’re pursuing distributed engineering,” (i.e., where engineers all over the world collaborate contemporaneously).

Offshored talent

What Microsoft refers to as distributed engineering could also be called offshoring. Today, 33% of executives say their companies make significant use of the practice, a figure expected to climb to 48% over the next three years. Of note, owing to the small size of many Asia-Pacific nations, companies headquartered in this region are significantly more likely to pursue offshoring than North American or European companies.

Offshoring talent

	Overall	No. Amer.	Europe	Asia-Pacific
Today	33%	34%	26%	41%
Next 3 years	48%	43%	48%	56%

Though there are legislators and voters in Europe and North America who see offshoring as the simple export of jobs in favour of profits, interviewees say this view misses the point. For example, an executive from a European tech manufacturer with over \$4 billion in annual sales says that offshoring is an “essential” and “inevitable” development. “We offshore to access talent at a lower cost, certainly, but the real motivation is access to new consumer markets.” That, says the executive, “not only keeps us competitive worldwide” but “protects” jobs at home. “The alternative,” he says, “is that our growth slows, we miss out on emerging markets, and in the not-so-long run, things will be worse for everyone.”

Jeff Chambers, HR Director at US-based software and services provider SAS Institute, agrees. Though on at least one ‘watchlist’ of US companies that practice offshoring at the expense of jobs ‘at home’ (CNN labels SAS as an exporter of US jobs overseas), Chambers says “the fact is, we haven’t exported anything.” The company, says Chambers, “has a global talent pool of 10,000 people distributed across 400 sites.” Only half of these, he explains, “are located in the United States.” Still, Chambers says the reason the company locates its personnel in countries

such as China, India, Brazil and elsewhere “is because we’re going after those markets. We’re following our customers and finding new customers. We use a global workforce so we’re able to work on software development 24 hours a day. We’re growing—and it hasn’t been at the expense of a single job in the United States.”

Ultimately, offshoring is being pursued for different reasons by different companies. For example, the survey shows that 45% of companies say they have moved processes/operations offshore to reduce costs and 35% describe their offshoring as a means of gaining access to talent.

A talent crisis in emerging markets?

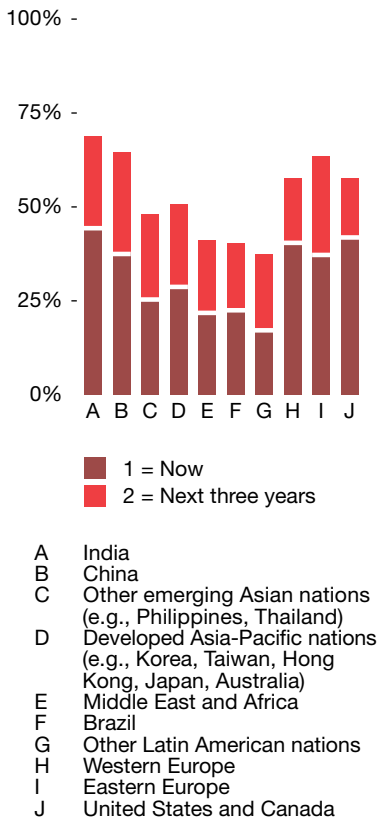
If talent is scarce in North America, Europe and even Asia (see Observation two), what is the outlook for emerging markets? Like the European tech company cited above, respondents say they see the beginnings of a talent shortage. For example, 40% of respondents say they have difficulty finding technical talent in emerging markets, while 47% cite difficulties in retaining such talent. (See Figure 6 page 23.)

Tech salaries are on the rise in emerging markets, particularly in countries such as China and India. For example, software services and outsourcing provider Logica CMG offshored to India more than six years ago as a means of gaining access to “a large and competent” talent pool, says Logica CMG India HR director Sushil Tayal. But in recent years, demand for local tech talent has intensified. Today, says Tayal, “talent acquisition, development and retention are among my highest priorities.”

Attracting and retaining technical staff in India is becoming “a great challenge,” says Tayal. “There is so much competition for talent. The people have many opportunities, so if you do not address their needs, they go to the competition.” So like others in Europe, North America and elsewhere, Tayal is deploying more techniques such as employee engagement surveys and individual career-pathing. Says Tayal, “we are working harder to keep the people we have and to develop the people. We are becoming much more strategic in HR.”

Initially, the operation in India was viewed as a support group. “We were part of global service delivery as well as a means of efficient software development and configuration,” says Tayal. But over time, he explains, the offshored operation is becoming much more than a source of low-cost technical talent. “Our position in the company has allowed us to become a centre of excellence,” a contributor to efficiency worldwide. “We have

Figure 17. In order to hire people with the required skills, have you now or will you in the next three years begin business operations in any of the following countries or regions?



the advantage of being completely new, so we are not mired in existing, legacy practices.” In addition, says Tayal, “because we are so deeply involved with the rest of the world, we are involved in global processes; we are in a position to see the best practices wherever they might evolve.”

As the role of Logica CMG India evolves and as its value to the parent company increases, the HR director’s role at the company is also changing. “As a start-up, our HR department was very operationally focused,” explains Tayal. “But I’ve now been asked to develop a plan to move from operational to strategic in our HR practice, and that’s underway right now.”

To do this, Tayal needs to understand the trends in his industry and how Logica CMG India will take advantage of them. Then, understanding these two pieces, “what are the competencies and capabilities we have, and what do we need to develop? How will we acquire, retain and develop the talent we need?” In short, the same capabilities and strategies necessary in developed countries are becoming essential in emerging markets.

Sometimes life intrudes upon work: SAS

2006 marks the ninth year in a row that SAS Institute, the world's largest privately held software and related services provider, has been named to *Fortune* magazine's list of the top 100 places to work in the United States. But don't believe for a moment, says vice president of human resources Jeff Chambers, that the company works hard to be an employer of choice "because we want to be nice." Instead, he explains, "our people strategies are all about the business. For your people to be pushing the edge of the envelope, they have to be engaged." Consequently, says Chambers, "we've learned that when you help your people manage the work/life balance, they perform better. It's as simple as that."

The ROI of daycare

One of the most visible elements of SAS's investments in its employees is the provision of onsite daycare. The SAS daycare centre has an enrollment of over 600 children, each of whose parents contribute only \$300 per month per child. "Compare that to the \$1,200-1,500 you'd have to pay on your own," says Chambers. "So it's a \$900-1,200 subsidy." Moreover, says Chambers,

"the quality of this daycare is extraordinary—it's an excellent facility." In addition, the parents and their children are able to drive to and from work together and can even have lunch together. "It has a very calming effect on the workplace," says Chambers. "That makes it easier for you to focus when you don't have to miss or even worry about your kid."

The real benefit to SAS, says Chambers, "is that we enjoy exceedingly low turnover." For example, "we've been told by people that they stayed with us because they didn't want to tell their kid they'd have to change daycare."

Though comparable technology companies typically experience voluntary turnover of as high as 15% annually, Chambers says that at SAS "we're experiencing a rate of around 4%." In terms of lower turnover alone, says Chambers, "we figure our investments translate into savings of around \$75-80 million per year."

But the returns don't stop there. In addition, says Chambers, motivated employees who stay with the company "enable us to get to market quicker with better

quality products." That's especially important for SAS says Chambers, because of the company's revenue model.

"We licence our software on an annual basis," says Chambers. To ensure a strong renewal stream, SAS reinvests about a quarter of its revenue back into R&D every year so that customers are always receiving the latest and greatest software from the company. Approximately two-thirds of customers increase their investment in SAS each year, which perpetuates the relationship. That, says Chambers, requires a long-term view of any customer relationship. So another benefit of investing in and retaining employees, he says, "is that it creates a linkage between our employee strategy and our customer strategy."

Chambers also believes that his company benefits greatly from the diversity enabled by its daycare facility. "A big reason women drop out of the workforce is to provide childcare," says Chambers. But at SAS, half the managers are women. Chambers maintains that "because we provide childcare, it makes it a lot easier for women to stay focused on their careers

without feeling they're neglecting their kids."

Emerging issues

SAS's investment in its people is by no means limited to daycare. Another example is the company's provision of elder care assistance.

According to Chambers, "We have a staff of some six or seven people whose focus is to help people deal with the needs of their ageing parents." These agents specialise in researching retirement homes or related elder care options, reducing burdens on SAS employees.

SAS is also thinking about how to continue to employ baby boomers as they begin to retire. Such workers "know our products, know our customers and they know how to get things done," says Chambers. So already, he says, "we're thinking the key to all of this will be finding a way to offer part-time work. They can stay engaged and yet still enjoy the freedom they've earned."

The approach overseas

SAS is an international company. Of its 10,000 workers, only half are in the United States. The rest, says Chambers, are distributed across "50 countries at over

400 worksites." Fundamentally, he explains, "wherever we have customers, our people follow. But in addition, a global workforce," says Chambers, "enables us to be able to work on any single client's software 24 hours a day."

As for its belief that contented and loyal employees are worth the investment, that's a model practised by the firm worldwide. "What we tell subsidiaries," says Chambers, "is that you need to be a best practice employer in your local geography—however that's defined." For example, "though they're finding it's pretty expensive in Germany, we're still looking at maybe providing daycare there in the near future."

All of this is to say nothing of the company's investment in its people in development, mentoring and related programmes. Overall, says Chambers, the company carefully considers its expected returns on its investments in employees. "This is a business and these are business decisions," he explains. "It's just that in our case, we've found it pays to invest in your people."

Developing a global talent pool*

This talent survey stresses the burgeoning challenge for global businesses of cross border collaboration.

Collaboration and connection across a global network is fundamental to customer service. Exceeding expectations consistently with operations worldwide is part of every successful company's delivery ethos. Great service in one territory means nothing if it isn't replicated elsewhere. Teamwork and fast access to relevant knowledge is key. Employees need networks they can trust and access quickly, knowing that they will get the help and service they need from colleagues across the globe.

As well as cross-border collaboration, the survey highlights the challenge of training and developing senior people around the world. Employees of successful global companies tell us that training and career development must be exceptional. But for busy people whose motivation is to be out with customers helping to solve problems, finding time for personal development can take second place.

As an example to our clients, PwC responded to these twin challenges of enhancing networks and developing our leaders through the development of two programmes: Genesis Park, geared toward middle management, and Ulysses, tailored to senior executives.

Genesis Park is a five-month secondment programme designed to develop leadership and innovation. People work on tough, real-life problems with input from diverse leaders in their field. Working in multinational teams they learn the value and the challenge of harnessing the differences in people to find new ways of solving problems and to innovate.

Ulysses was designed to achieve three goals: (1) to develop leaders who will flourish in a networked knowledge environment and a global stakeholder society; (2) to connect people and build a strong conduit to promote, to reconcile and to harness the richness of diversity a global network

offers; and (3) to transform public trust by developing 'responsible leaders'—people who think and act in a broader, connected way understanding the complexities and interconnections of business, global economies and the myriad of challenges for society close to their own home and wider.

In addition to these specific programmes, PwC has one of the most mobile workforces within the professional services industry. This large international assignment programme is key to retaining PwC's position as a global firm—using standard technologies and methodologies to service our clients on a global basis.

PwC's human resources professionals can help your company:

- › Align your international assignment programme to reflect your wider reward and talent management programmes;
- › Develop metrics to measure the success and cost of your international assignment programme;
- › Align your international assignment policies to meet the needs of your business while being cost efficient;
- › Ensure that your international assignment delivery structure is efficient and uses technology effectively;
- › Build tax-efficient international assignment structures and policies;
- › Manage risks by complying with regulations in the locations where your global workforce is deployed; and
- › Select the right staff for international assignments and ensure that their performance is meeting business objectives.

For more information on how PwC can help you develop a global talent pool, visit us at www.pwc.com/techconnect for links to key human resources and performance improvement challenges, issues and solutions.

Questions for further reflection

What are you doing to get the most from a global workforce? What mechanisms enable or inhibit global collaboration? What specific experiences can you cite to give you confidence your company is deriving all it can from its global capabilities?

What is your experience in attracting and retaining talent in emerging markets? Do your local HR executives have the experience and resources required to make sophisticated decisions and implement effective strategies? How reliable are the human capital metrics you receive from offshore facilities? How do you know?

What are you doing to attract and retain talent in emerging markets? Are you an employer of choice? What are you doing to maximise your employment 'brand' recognition among potential emerging markets candidates?

Do you have policies in place to easily and quickly move your talent around the globe? Are they adhered to and do they deliver the value you want to achieve for your business? How do you measure the value and cost of your international assignees?



Conclusion

Technology companies have always competed for the best and brightest. What's new is how intense the competition has become for highly skilled, collaborative talent. This has led technology companies to place more emphasis on developing and nurturing their human capital.

Human capital strategy begins with the acquisition of talent. Not only are companies more visible on college (and even high school) campuses, but they are also more likely to attempt to poach talent from other companies. Additional potential sources receiving increased attention include partners, acquisition targets, outsourcing firms and increasingly, offshoring companies—which is heating up the competition for talent in emerging markets.

But the most dramatic evolution seems to be taking place in the realm of managing in-house talent. Identifying and retaining top performers is becoming paramount and is occurring across the corporation rather than merely being focused on a few select individuals. More companies are applying tools such as talent maps to assess their present and future talent needs, as they realise the value of tailoring individual career and development plans.

Technology companies are also unquestionably broadening the management of human capital beyond the sole responsibility of HR to involve other functions as well. Line managers are learning the importance of nurturing the talent in their businesses and are themselves being evaluated on their ability in this area. Worker engagement surveys are being used to develop more effective strategies and practices.

As a result, human capital metrics are being introduced and very carefully tracked at all levels of the organisation. Moreover, believing excellence in human capital management is a differentiator of the quality and sustainability of performance, these metrics are in turn being shared with a growing list of stakeholders—from investors to partners, suppliers and customers. Indeed, a growing number of stakeholders are increasingly demanding such insights.

More and more management teams in the technology industries have concluded that sustained performance is inextricably linked to the quality of their people. More than a mere battle for talent, these executives believe the real contest will be won through the development of superior tools and strategies for managing human capital across the enterprise. Are your people your business? Irrespective of your answer, be forewarned: it is a near certainty that one or more of your competitors is spending large amounts of money, time and effort to enhance their human capital management.

Appendix

The survey: Successful strategies in the competition for talent*

51	Survey methodology
52	Results of the survey
62	Profile of the survey respondents
64	Acknowledgments
65	PwC technology industry leaders by country

Survey methodology

The analysis in this report is based on the results of a survey conducted in June 2006 by the Economist Intelligence Unit.

Analysis

The survey relies on a variety of question formats. For example, on a number of questions, respondents were asked to respond on a scale of 1 to 5 with 1 being 'strongly agree' and 5 being 'strongly disagree'. In other cases, comparison phrases such as 'highly accurate/not accurate' or 'very extensively/not extensively' were used within a similar five-point scale to capture attitudes and practices. In still other cases, respondents were asked to choose their top three answers or select all that apply.

The report itself uses actual percentages from the survey in every case. But in many situations, the analysis may combine two similar categories of answers (such as all those respondents who chose 1 or 2) to draw its conclusions. While such combinations are referenced in all cases, the tables themselves (appearing throughout the report and again below) are often useful for a more detailed view of the responses.

Industry sectors

The survey results come from executives in the technology, telecom and digital media sectors. In order of frequency, the specific sectors include software (30%), business information content developers (16%), B2B hardware manufacturers (13%), consumer electronics/device makers (12%), entertainment content developers (7%), wireless distribution providers (6%), semiconductors and other component makers (3%), hard-wired distribution providers, e.g., cable providers (2%) and 'other' technology (11%).

Seniority of respondents

A cross-section of executives responded to the survey. The specific titles include manager (23% of the total responses), CEO/president/managing director (21%), SVP/VP/Director (10%), head of business unit (9%), head of department (8%), CIO/technology director (7%), board member (7%), other C-level executive (6%), CFO/treasurer/comptroller (5%) and 'other' title (4%).

Geography

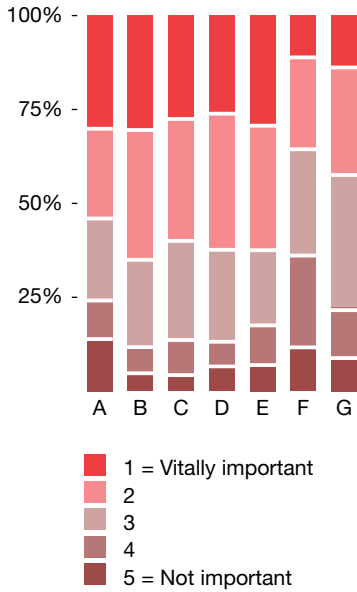
The respondent profiles are also well dispersed geographically. Approximately 32% come from Western Europe, 30% from Asia-Pacific and 23% from North America. Other regions represented in the survey include Eastern Europe (9%), Middle East and Africa (5%) and Latin America (1%).

Results of the survey

Respondents' answers to the survey questions are illustrated in the following figures.

1

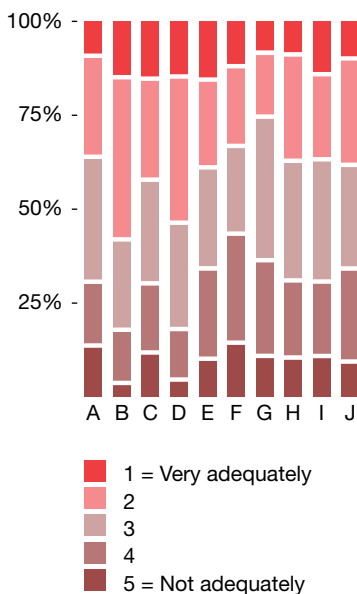
How important are the following issues to your company?



	1	2	3	4	5
A. Promoting collaboration between global teams including outsourced and offshored operations	29.87%	24.03%	22.08%	10.39%	13.64%
B. Maintaining an entrepreneurial culture as the organisation grows	30.77%	33.97%	23.08%	7.69%	4.49%
C. Protecting intellectual property in alliances and partnerships	27.56%	32.69%	25.64%	9.62%	4.49%
D. Protecting the intellectual property residing in individuals	26.28%	35.90%	24.36%	6.41%	7.05%
E. Managing the transition from product-focused to service-focused	29.41%	32.68%	20.26%	10.46%	7.19%
F. Measuring the value and contribution of HR	11.69%	24.03%	27.92%	24.68%	11.69%
G. Measuring the value and contribution of your overall human capital strategies	13.73%	28.76%	35.29%	13.07%	9.15%

2

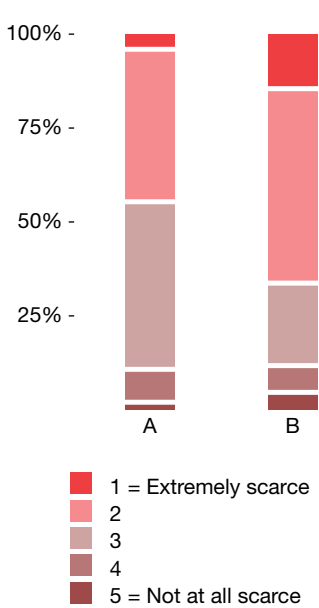
How adequately do your human capital management processes address the following issues?



	1	2	3	4	5
A. Tie compensation to long-term strategy	9.03%	27.10%	32.90%	17.42%	13.55%
B. Tie compensation to short-term performance	14.94%	43.51%	24.03%	14.29%	3.25%
C. Include ethical behaviour in performance appraisals	15.58%	26.62%	27.92%	18.18%	11.69%
D. Recruit and develop talented people	14.84%	38.71%	29.03%	12.90%	4.52%
E. Foster entrepreneurship and innovation	15.13%	23.68%	27.63%	23.68%	9.87%
F. Anticipate and address the issue of senior-level succession	11.61%	21.29%	23.87%	28.39%	14.84%
G. Improve the quality and reduce the cost of human resources administration	7.74%	18.06%	38.06%	25.81%	10.32%
H. Provide appropriate training to senior executives	8.39%	29.03%	31.61%	21.29%	9.68%
I. Provide career development to all levels of the organisation	14.19%	22.58%	32.26%	20.65%	10.32%
J. Define, measure and reward collaboration, partnering and innovation	10.53%	28.29%	26.97%	25.00%	9.21%

3

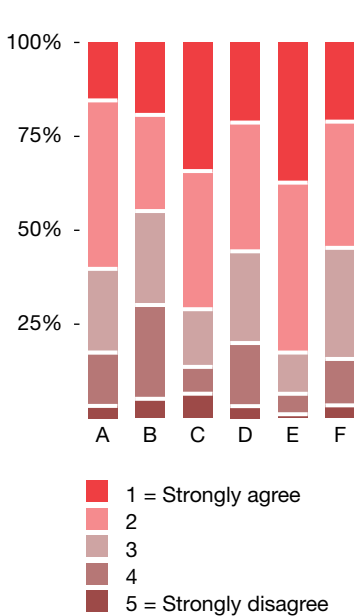
How scarce, now and in the next three years, is the talent your company requires?



	1	2	3	4	5
A. Today	4.05%	40.54%	44.59%	8.78%	2.03%
B. Next three years	14.57%	51.66%	21.85%	7.28%	4.64%

4

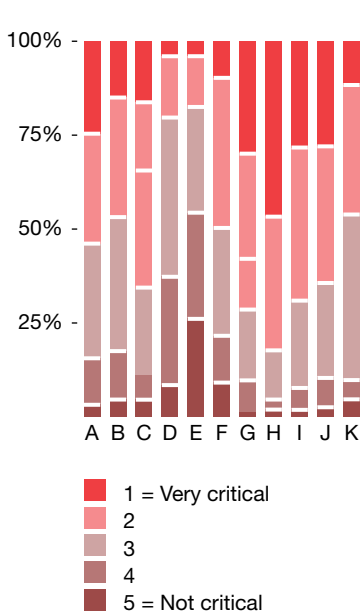
How strongly do you agree or disagree with the following statements?



	1	2	3	4	5
A. The speed and frequency of change to our business models and strategies make it very difficult to align and develop required skills and attitudes among our staff.	15.38%	44.87%	23.08%	13.46%	3.21%
B. Our performance is largely dependent on the human resources capabilities of external partners and suppliers.	19.23%	25.64%	25.00%	25.00%	5.13%
C. Competition for talent is greater in technology than in most other industries.	34.42%	36.36%	15.58%	7.14%	6.49%
D. We are highly reliant on a global talent pool, creating challenges of language, geography and culture.	21.29%	34.19%	24.52%	16.77%	3.23%
E. Engineering knowledge coupled with creative and collaborative thinking is in short supply.	37.42%	45.16%	10.97%	5.81%	0.65%
F. Requisite mathematics, science and engineering talent is becoming more rare in Western nations relative to developing nations.	21.05%	33.55%	29.61%	12.50%	3.29%

5

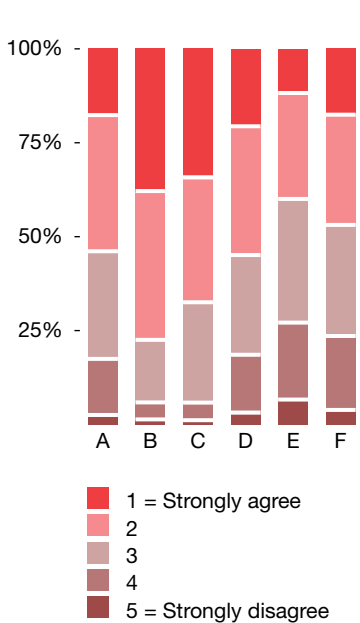
Which broadly-defined job descriptions are the most critical in terms of attracting and retaining staff?



	1	2	3	4	5
A. Sales	24.68%	29.22%	30.52%	12.34%	3.25%
B. Marketing	14.94%	31.82%	35.71%	12.99%	4.55%
C. Business development	16.23%	49.35%	23.38%	6.49%	4.55%
D. Finance	3.92%	16.34%	42.48%	28.76%	8.50%
E. Manufacturing	4.03%	13.42%	28.19%	28.19%	26.17%
F. Field operations (e.g., customer implementation of your technology)	9.80%	39.87%	28.76%	12.42%	9.15%
G. Research and development	29.87%	41.56%	18.83%	8.44%	1.30%
H. Innovation	46.71%	35.53%	13.16%	2.63%	1.97%
I. Business unit leadership	28.39%	40.65%	23.23%	5.81%	1.94%
J. Senior management	27.92%	36.36%	25.32%	7.79%	2.60%
K. Programme management	11.69%	34.42%	44.16%	5.19%	4.55%

6

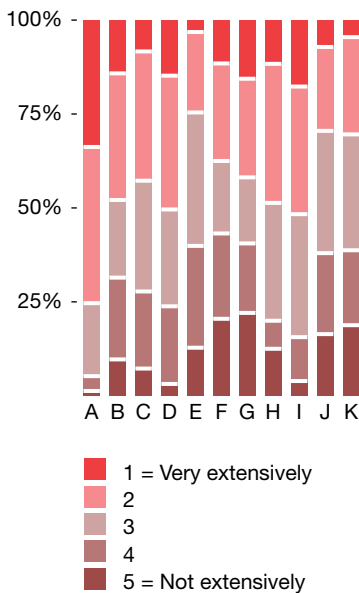
In terms of research and development activities, how strongly do you agree or disagree with the following statements?



	1	2	3	4	5
A. We have difficulty finding qualified technical engineers.	17.65%	35.95%	28.76%	15.69%	1.96%
B. We have difficulty finding innovative engineers.	38.16%	39.47%	16.45%	4.61%	1.32%
C. We have difficulty obtaining the skills we require at an affordable cost.	33.55%	34.19%	26.45%	5.16%	0.65%
D. We have difficulty retaining R&D talent.	20.92%	33.99%	26.80%	15.69%	2.61%
E. We have difficulty finding R&D talent in emerging markets.	11.92%	28.48%	32.45%	20.53%	6.62%
F. We have difficulty retaining R&D talent in emerging markets.	17.33%	30.00%	29.33%	19.33%	4.00%

7

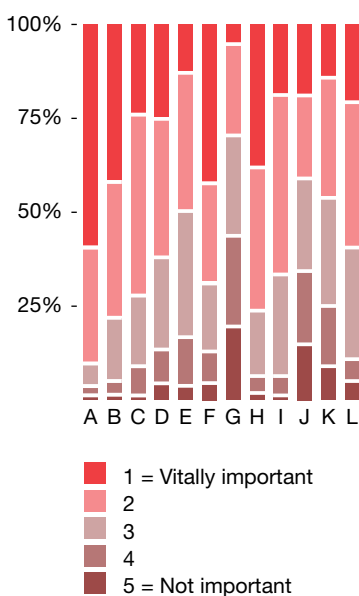
In the next three years how extensively will you rely on the following sources of human capital for your company?



	1	2	3	4	5
A. Development/training of new hires and existing personnel	33.77%	41.56%	19.48%	3.90%	1.30%
B. Recruitment from top schools	14.19%	33.55%	20.65%	21.94%	9.68%
C. Recruitment from other industries	8.39%	34.19%	29.68%	20.65%	7.10%
D. Recruitment from competitors	14.84%	35.48%	25.81%	20.65%	3.23%
E. Recruitment from partners	3.23%	21.29%	35.48%	27.10%	12.90%
F. Recruitment from overseas	11.61%	25.81%	19.35%	22.58%	20.65%
G. Offshoring (moving existing operations to developing nations)	15.69%	26.14%	17.65%	18.30%	22.22%
H. Outsourcing (hiring specialist companies to perform certain tasks)	11.69%	37.01%	31.17%	7.79%	12.34%
I. Partnerships/alliances	17.65%	33.99%	32.68%	11.76%	3.92%
J. M&A	7.19%	22.22%	32.68%	21.57%	16.34%
K. Joint ventures	4.52%	25.81%	30.97%	20.00%	18.71%

8

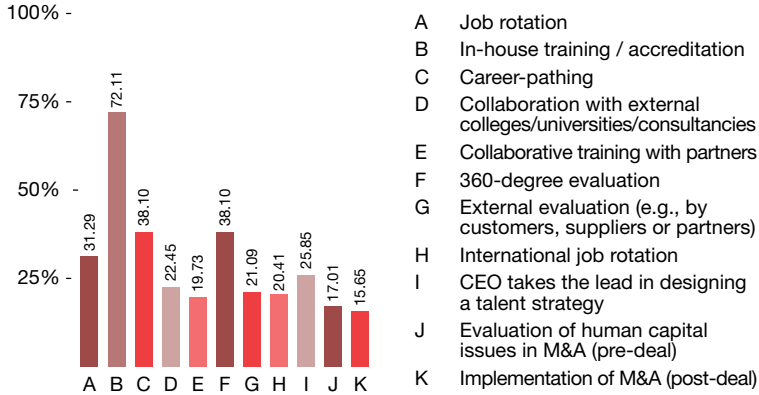
How important are the following issues to your company?



	1	2	3	4	5
A. Identifying/developing/retaining high performers	59.35%	30.97%	5.81%	2.58%	1.29%
B. Recruiting high-potential personnel	41.94%	36.13%	16.77%	3.87%	1.29%
C. Training and development	24.03%	48.05%	18.83%	7.79%	1.30%
D. Promoting collaboration across business units	25.16%	36.77%	24.52%	9.03%	4.52%
E. Managing collaboration with partners/alliances	12.90%	36.77%	33.55%	12.90%	3.87%
F. Protecting intellectual property	42.21%	26.62%	18.18%	8.44%	4.55%
G. Managing wage disparity amid global operations	5.23%	24.18%	26.80%	24.18%	19.61%
H. Stimulating innovation	38.06%	38.06%	17.42%	4.52%	1.94%
I. Aligning compensation and performance measurements to corporate strategy	18.71%	47.74%	27.10%	5.16%	1.29%
J. Accessing offshore talent	18.83%	22.08%	24.68%	19.48%	14.94%
K. Managing change programmes and new ways of working	14.19%	32.26%	28.39%	16.13%	9.03%
L. Engaging people with their role in delivering the strategy of the business	20.65%	38.71%	29.68%	5.81%	5.16%

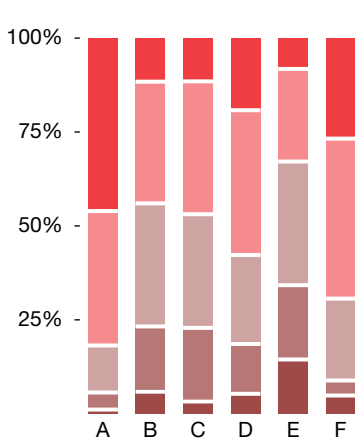
9

Which of the following human capital management activities are significant practices at your company?



10

In the next three years, how effective will the following elements of compensation be in terms of attracting and retaining top performers?

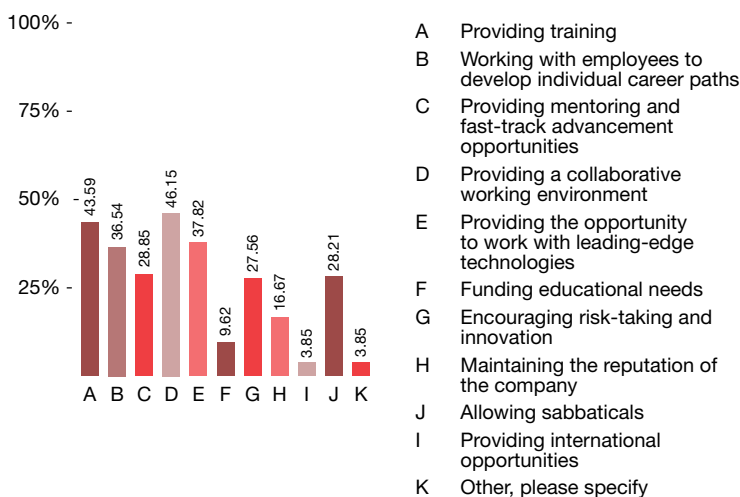


■ 1 = Most effective
■ 2
■ 3
■ 4
■ 5 = Least effective

	1	2	3	4	5
A. Base pay	46.15%	35.26%	12.82%	5.13%	0.64%
B. Healthcare benefits	11.61%	32.26%	32.90%	16.77%	6.45%
C. Retirement/education benefits	11.61%	34.84%	30.32%	19.35%	3.87%
D. Share options/equity participation	19.35%	38.06%	24.52%	12.26%	5.81%
E. Child care costs/arrangements	8.55%	24.34%	32.89%	19.74%	14.47%
F. Intangibles (advancement, job security, etc.)	26.92%	42.95%	21.15%	4.49%	4.49%

11

Excluding financial compensation, which of the following do you believe are your company's most effective means of rewarding, motivating and retaining talent?



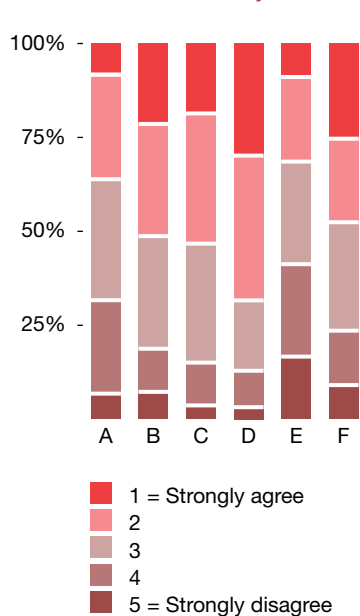
12

We define outsourcing as hiring specialist companies to perform substantial tasks such as administration or customer support for your business. To what degree does or will your company make use of outsourcing?



13

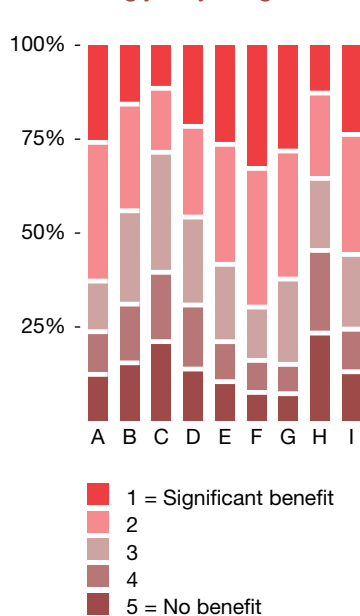
What benefits have you obtained or do you expect to obtain from outsourcing?



	1	2	3	4	5
A. Acquire engineering skills at a lower cost	26.17%	36.91%	12.75%	11.41%	12.75%
B. Acquire engineering skills that are otherwise unavailable	16.00%	28.67%	24.00%	15.33%	16.00%
C. Acquire customer-support talent that is otherwise unavailable	11.49%	17.57%	31.76%	18.24%	20.95%
D. Acquire customer-support talent at a lower cost	21.48%	24.16%	23.49%	16.78%	14.09%
E. Reduce administrative costs	26.85%	31.54%	20.81%	10.74%	10.07%
F. Reduce operating costs	32.89%	36.91%	14.09%	8.05%	8.05%
G. Increase flexibility	28.19%	33.56%	22.82%	8.05%	7.38%
H. Improve access to offshore markets	12.84%	22.30%	19.59%	21.62%	23.65%
I. Improve focus on core competence and strategy	24.32%	31.08%	20.95%	10.14%	13.51%

14

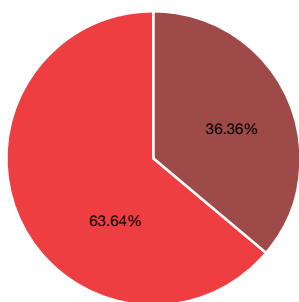
How strongly do you agree or disagree with the following statements?



	1	2	3	4	5
A. Over time, senior human capital managers often become advocates for employees as opposed to advocates for the company at-large.	7.79%	28.57%	31.82%	24.68%	7.14%
B. The most effective senior human capital managers in our industry have extensive non-HR experience.	21.43%	29.87%	29.87%	11.69%	7.14%
C. It is vital to rotate non-HR managers into senior human capital management positions on a regular basis.	18.83%	34.42%	31.82%	11.04%	3.90%
D. The most effective human capital strategies are devised and implemented by business units themselves, as opposed to a central HR function.	30.07%	38.56%	18.30%	9.80%	3.27%
E. An ageing workforce presents one of our greatest organisational challenges.	9.09%	22.08%	27.92%	24.03%	16.88%
F. Managing a global workforce presents one of our greatest organisational challenges.	25.16%	22.58%	29.03%	14.19%	9.03%

15

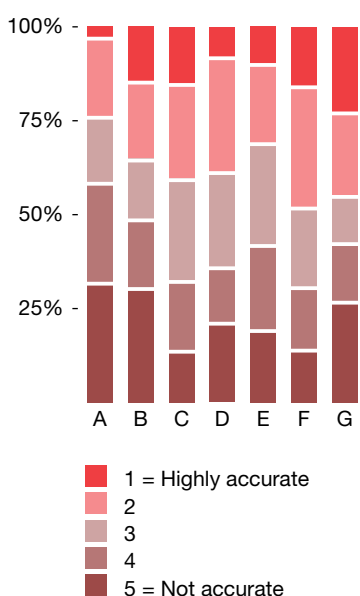
Which of the following statements best describes your company’s approach to managing global opportunities and talent?



- We move our capital to develop operations where the talented people exist.
- We move our talented people to where our capital, operations and opportunities exist.

16

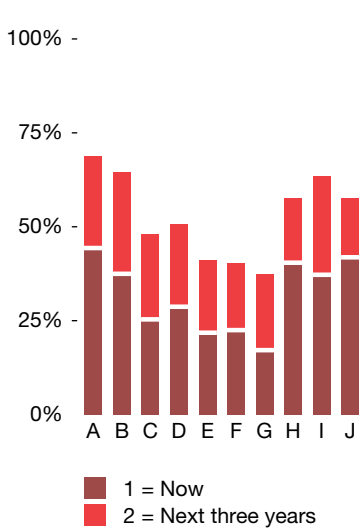
How accurately do the following statements describe actions taken, or soon to be taken, by your company?



	1	2	3	4	5
A. We acquire companies to obtain talent.	3.25%	20.78%	17.53%	26.62%	31.82%
B. We move processes/operations offshore to access talent.	14.94%	20.13%	16.88%	18.18%	29.87%
C. We increasingly require non-compete agreements from staff (in addition to ones from business unit leaders and senior managers).	15.58%	24.68%	27.27%	18.83%	13.64%
D. We partner with schools/universities/consultancies to improve curricula.	8.39%	30.32%	25.16%	14.84%	21.29%
E. We partner with schools/universities/consultancies to execute internal training.	10.46%	20.92%	26.80%	22.22%	19.61%
F. We use certification to enhance the value of our training and development offerings.	15.69%	32.68%	21.57%	16.34%	13.73%
G. We have moved processes/operations offshore to reduce costs.	22.88%	22.22%	13.07%	15.03%	26.80%

17

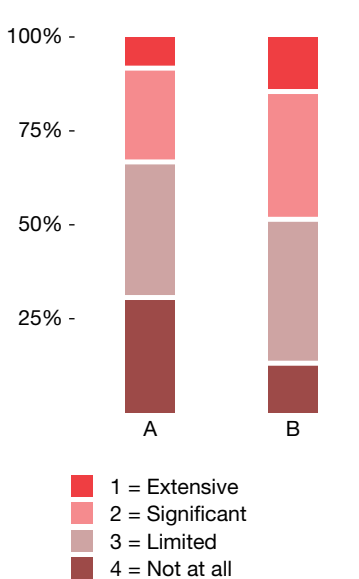
In order to hire people with the required skills, have you now or will you in the next three years begin business operations in any of the following countries or regions?



	1	2
A. India	43.75%	25.00%
B. China	37.50%	27.08%
C. Other emerging Asian nations (e.g., Philippines, Thailand)	25.00%	22.92%
D. Developed Asia-Pacific nations (e.g., Korea, Taiwan, Hong Kong, Japan, Australia)	29.17%	21.53%
E. Middle East and Africa	21.53%	19.44%
F. Brazil	22.92%	17.36%
G. Other Latin American nations	17.36%	20.14%
H. Western Europe	40.28%	17.36%
I. Eastern Europe	37.50%	26.39%
J. United States and Canada	41.67%	15.97%

18

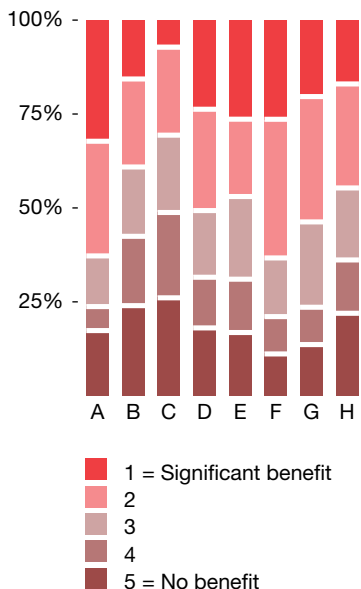
We define offshoring as moving some or all of your own operations to another locale in order to obtain competitive benefits. To what degree does or will your company make use of offshoring?



	1	2	3	4
A. Now	8.28%	24.83%	36.55%	30.34%
B. Next three years	15.03%	33.33%	38.56%	13.07%

19

What benefits have you obtained or do you expect to obtain from offshoring?



	1	2	3	4	5
A. Acquire engineering skills at a lower cost	31.79%	31.13%	13.25%	6.62%	17.22%
B. Acquire engineering skills that are otherwise unavailable	15.33%	24.00%	18.00%	18.67%	24.00%
C. Acquire customer-support talent that is otherwise unavailable	7.38%	22.82%	20.81%	22.82%	26.17%
D. Acquire customer-support talent at a lower cost	23.84%	27.15%	17.22%	13.91%	17.88%
E. Reduce administrative costs	26.67%	20.00%	22.67%	13.33%	17.33%
F. Reduce operating costs	26.67%	36.67%	16.00%	9.33%	11.33%
G. Increase flexibility	20.67%	33.33%	22.67%	10.00%	13.33%
H. Improve access to offshore markets	17.33%	27.33%	19.33%	14.00%	22.00%

Profile of the survey respondents

Which of the following best describes your title?

Manager	22.58%
CEO/President/Managing director	21.29%
SVP/VP/Director	9.68%
Head of Business Unit	9.03%
Head of Department	8.39%
Board member	7.10%
CIO/Technology director	7.10%
Other C-level executive	6.45%
CFO/Treasurer/Comptroller	4.52%
Other	3.87%

What are your main functional roles? Choose no more than three.

Strategy and business development	44.23%
General management	37.18%
Marketing and sales	32.05%
IT	30.13%
Operations and production	13.46%
Customer service	12.82%
Finance	12.18%
R&D	10.90%
Human resources	10.26%
Information and research	8.33%
Supply-chain management	5.13%
Risk	3.21%
Other	3.21%
Legal	2.56%
Procurement	1.28%

What type of company do you work for?

Software developer	30.28%
Content developers (business information)	16.20%
Non-consumer hardware manufacturer	13.38%
Consumer electronics/device manufacturer	11.97%
Other, please specify	10.56%
Content developers (entertainment)	7.04%
Wireless distribution service provider	5.63%
Semiconductors and other components maker	2.82%
Hard-wired distribution service provider (e.g., cable TV operator)	2.11%

What are your organisation's global annual revenues in US dollars?

Over \$10bn	21.43%
\$5bn to \$10bn	5.84%
\$1bn to \$5bn	12.99%
\$500m to \$1bn	5.84%
\$250m to \$500m	5.84%
Under \$250m	48.05%

In which region are you personally based?

Western Europe	32.26%
Asia-Pacific	30.32%
North America	22.58%
Eastern Europe	9.03%
Middle East & Africa	4.52%
Latin America	1.29%

Please provide your personal tenure in the following categories.

	Under 1 year	1 to 3 years	4 to 5 years	6 to 10 years	11 to 15 years	15 to 20 years	Over 20 years
Working as a professional	0.00%	5.92%	7.89%	15.79%	21.71%	24.34%	24.34%
Working in the human resources function (if applicable)	26.00%	22.00%	16.00%	28.00%	4.00%	0.00%	4.00%
Working in the technology industry	3.57%	9.29%	8.57%	29.29%	18.57%	12.14%	18.57%
Working for your present employer	7.95%	29.14%	20.53%	27.81%	7.28%	2.65%	4.64%

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About the PricewaterhouseCoopers Global Human Resource Services

PricewaterhouseCoopers Human Resource Services practice works with clients who strive to make their people a sustainable source of competitive advantage. Our strategy is built on our own belief in developing our people to be creative and effective team players committed to outstanding client service. We bring the ability to take fresh perspectives, to think differently and to develop and implement new and value adding solutions.

We work in close relationships with clients to offer practical, multi-disciplined approaches to the increasingly complex challenges facing businesses. One of the main challenges is to create environments in which their people can work most effectively. Our Human Resource Services practice brings together all of the professionals working in the human resource service arena—tax, benefits, retirement, communications, financial planning, international assignments, equity, culture and change, compensation, strategy, regulatory, legal and process management—affording our clients an unmatched breadth and depth of expertise, both locally and globally.

Our expertise in tax, law, actuarial, accounting and compliance issues, combined with our knowledge of employment best practices, sets us apart.

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PricewaterhouseCoopers delivers value with a global perspective through local implementation. Please contact the technology industry leader nearest you to discuss the challenges facing your company and how we can help you.

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