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IT Skills @ Work

An Asia Pacific Perspective

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The Kelly IT Skills @ Work Study 2008 was conducted by Kelly Services to explore the critical skills needs and skills shortages in the IT workforce as well as the attraction and retention strategies and tactics undertaken by organizations to ensure a high-performance IT workforce.

Conducted in early 2008, the respondents are senior IT decision makers in a range of medium and large national or multinational organizations located in 12 countries across Asia Pacific. Close to 40% of the respondents had regional Asia Pacific responsibilities while the others had local responsibilities.

The rapid rate of growth of different sectors in the IT industry coupled with changing demographic trends present many challenges to organizations that are navigating the waters of the changing IT labor market. The growth in IT positions is driven by new opportunities to leverage technology in organizations and businesses recognizing the significant impact that IT can have on growth and revenue.

An overwhelming 80% of the respondents felt that the shortfall of IT talent with relevant skills has a negative impact on their organization's ability to serve clients and customers. In the IT & Network Services industry, almost 90% of organizations feel that the shortage of IT professionals with relevant skills has a negative impact on their ability to serve clients and customers.

From the survey, four of the Top 5 technical skills with the greatest shortage of IT talent are among the Top 5 technical skills that are considered to be most important for IT professionals in their organization. They are applications development and integration, data management, enterprise systems integration / customization and customer relationship management (CRM).

Executive Summary

In terms of non-technical skills, four of the Top 5 non-technical or "soft" skills with the greatest shortage of IT talent are also among the Top 5 non-technical skills that are considered to be most important for IT professionals in their organization. They are communication, creative thinking, problem solving/decision making and initiative/enterprise.

Investing in IT talent is a critical way in which organizations can make positive gains in productivity and achieve other business results. One form of investment is in the skill levels of the IT workforce and organizations need to understand their current gaps in IT-related technical skills as well as non-technical or business-related skills.

Introduction

Analyst firm Gartner raised concerns of a worldwide shortage in IT personnel as the coming generation shun the industry because of a reputation for hard work and perceived lack of glamour. Gartner claims that the current shortage is different from the skills gap that emerged in the dot-com era, as it affects all areas of the IT industry and not just specific technical skills.

“This is a devastating skills shortage at a time when there is a surge in the number of projects required from IT”
Gartner Vice President and Fellow¹

Skills gaps and shortages are likely to reduce productivity and quality services to customers, frustrate customers and most importantly, hurt the ability of organizations to attract and retain valuable and high caliber talent.

“A company’s ability to recruit and manage talent has become the bellwether for the overall health and longevity of the organization”.
Deloitte, Vice Chairman²

Some countries in Europe and North America have suggested that outsourcing to other countries is the way forward; however, even this approach faces major challenges as the IT skills shortage is also affecting those countries in Asia Pacific to which many

projects and assignment have traditionally been outsourced, with no signs of abating.

Additionally, according to Gartner, IT workers need to add non-technical skills to their CVs to operate efficiently in today’s business environment. This requirement holds true for all levels of the IT skills spectrum.

“What constitutes ‘qualified people’ will change...The intersection of business models and IT requires people with varied experience, professional versatility, multidiscipline knowledge and technology understanding. A hybrid professional, in other words”.
Gartner Vice President and Fellow¹

Asia Pacific has more than half the world’s population and is home to many of the world’s fastest-growing economies. In spite of this, organizations are being forced to reconsider just how quickly they will be able to grow because they cannot find enough people with the relevant skills needed.

Technical skills, particularly in the areas of IT, are lacking in many parts of the region. The demands of a global, technology-driven, data-intensive, knowledge-based economy are creating skills gaps across sectors and industries. The knowledge and skills of the workforce are key to growing and sustaining a competitive advantage. A shortage of important skills can put the brakes on innovation and growth.

1 “Gartner Warns of IT Skills Shortage”; February 2008; <http://www.vunet.com/news/2209270/gartner-warns-skills-shortage>

2 “Traditional Recruitment Fails to Solve IT Skills Shortage”; March 2008; <http://www.itnews.com.au>



A Profile of Respondents

The Kelly IT Skills @ Work Study 2008 was conducted by Kelly Services with over 440 companies across more than 25 industries to understand the most significant IT talent issues and what companies are doing to address them. Specifically, the web-based survey was fielded in early 2008 to explore the critical skills requirements and skills shortage in the IT workforce as well as the attraction and retention strategies and tactics undertaken by organizations to ensure a high-performance IT workforce.

Respondents were mainly senior IT decision makers and hiring managers in a range of medium and large national or multinational organizations located in countries across Asia Pacific which includes Singapore, Australia, New Zealand, Hong Kong, India, Indonesia, Japan, Korea, Malaysia, Philippines, Thailand and Vietnam.

Almost 40% of the respondents had regional Asia Pacific responsibilities while the others had local responsibilities.

Industries Covered

Banking & Financial
Business Services
Central / Local Government
Education
Engineering / Infrastructure
IT / Network Services
Manufacturing
Retail
Life Sciences / Pharmaceutical
Transport / Distribution
Travel / Leisure
Utilities
Agriculture
Communication
Energy
Oil and Gas
Telecommunications
Retail
Electronics
Hospitality
Law
Medical
Research
Tax and Audit
Media and Publishing
Real Estate and Facilities

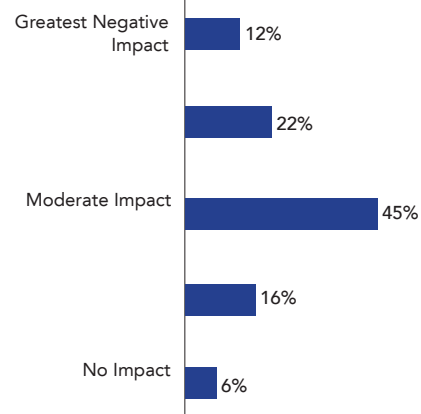


Overwhelmingly, organizations feel that the lack of IT professionals with relevant skills has a negative impact on their ability to serve clients and customers; just 6% of those surveyed indicate that the IT skills shortage has no adverse impact on their business. In contrast, close to 80% describe the effect on their business as moderate to severe.

The pain is universal across industry sectors. Understandably, the IT/Network Services sector feels the greatest pinch (with 99% indicating a negative impact on their business and close to 90% describing the effect to be moderate to severe). Respondents operating in other industries also express significant concern. Notably, Business Services and Manufacturing sectors have a high proportion of respondents who feel the shortage has a moderate to severe negative impact (Business Services: 81% and Manufacturing: 72%).

Impact of Shortage of IT Talent

To what extent does the shortage of IT skills impact your organization's ability to serve customers?



To what extent does the shortage of IT skills impact your organization?

	Total Negative Impact	No Impact	Moderate Negative Impact	Greatest Negative Impact
Banking & Financial Services	83%	17%	24%	10%
Business Services	96%	4%	15%	19%
Government	60%	40%	20%	0%
Education	95%	5%	30%	30%
Engineering / Infrastructure	87%	13%	44%	6%
IT / Network Services	99%	1%	12%	26%
Life Sciences / Pharmaceutical	83%	17%	17%	17%
Manufacturing	93%	7%	21%	4%
Retail	82%	18%	27%	9%
Transport / Distribution	89%	11%	22%	22%
Travel / Leisure	100%	0%	33%	0%
Utilities	100%	0%	50%	0%

(Percentages are rounded to the nearest whole number)

Reasons for Shortage of IT Talent

Lack of experience amongst the organization's current IT workforce is the single most frequently mentioned driver behind the shortage of qualified IT talent (42%).

Fresh IT graduates entering the workforce unprepared for current demands undermines the ability of businesses to grow and compete. Compounding the problem is the looming retirement of large numbers of baby boomers as well as the fact that many of today's technology and other skills become obsolete in as little as two to four years. Faced with the reality of rapidly changing skills needs and an increasing shortage of skilled labor across many industries, organizations and employers understand that they must train and develop their employees or risk business success. Further, companies are now faced with the clear need to make the investment in training, knowing that they will lose some of that investment to other companies; as demonstrated further in the analysis, 70% of respondents indicate that the best means for remedying the shortfall in IT skills talent is to hire from other companies.

More than 60% of respondents cite training challenges as contributing to the scant supply of IT talent; whether it be related to the preparedness / suitability or lack thereof of the new talent to meet the business needs (39%) or the organization's ability to train and develop staff (23%).

Reasons for shortage of IT talent



40% of the respondents attribute the dearth of qualified IT talent within their organizations to inadequate or non-competitive salary and compensation packages while 36% name weak talent retention programs as the causal factor.

Increasing salaries to attract and retain the best and brightest IT talent due to increased competition could impact operating margins and lead to a wage inflation. Being competitive involves as well as demands more than simply adopting market-proven practices. According to Gartner, "Pay practices that align with and support the changing IT strategy as well as workforce expectations result in higher productivity gains, which ultimately improve business performance".³

³ "Pay Key to IT Skills Shortage"; July 2008; <http://www.humanresourcesmagazine.com.au>

Some countries in Asia are suffering from “brain drain”. In recent years more people have been traveling outside the region to study and acquire skills. The best and the brightest are often enticed to stay abroad as the competition for talent has become global. In addition, the labor force in countries such as Japan are expected to drop over the next two decades. What this translates to is that the already challenging task of finding people with the relevant technical IT skills will become even more difficult.

Further, as mentioned previously, close to 40% of respondents perceive the new talent within their organizations to be ill-prepared to meet their business needs.

Clearly, it is not enough for IT professionals to simply be competent in their roles nowadays. Organizations today require newly hired IT staff to be “ready to go”, which means they

need to understand the company strategy and relate the impact of IT to business goals. IT professionals with the right technical skills set plus a good understanding of the business they work in will stand a much better chance in the market today as organizations are continuously innovating to stay ahead of shifting market conditions and meeting changing customer needs.

Further, the need for both technical skills and business talent (non-technical skills) will be in short supply compared to demand. According to Gartner, unlike the last IT staffing shortage of the dot.com boom, “the need will be for people with more general qualifications, experience and business insight to understand and manage business processes and technology”.⁴

⁴ “IT Staffing Shortage to Surface Again”; February 2008; <http://www.networkworld.com>



IT Skills – What's Hot and What's in Shortage?

Top 5 Most Important Technical Skills

Applications Development & Integration	53%
Enterprise Systems Integration / Customization	27%
Data Management	27%
Customer Relationship Management	26%
Software Engineering	26%

Top 5 Technical Skills with Greatest Shortage

Applications Development & Integration	36%
Data Management	21%
Enterprise Systems Integration / Customization	20%
Disaster Recovery / Contingency Planning	19%
Customer Relationship Management	18%

There is significant overlap between the technical skills considered most critical within an organization and the technical skills cited as the shortest in supply. Based on the feedback provided by survey respondents, four of the Top 5 technical skills with the greatest shortage of IT talent are among the Top 5 technical skills that are considered to be most important for IT professionals in their organization.

These include: applications development and integration, data management, enterprise systems integration/customization and customer relationship management (CRM).

Often as networks become more complex and sophisticated, they also get distributed over various remote locations and branch offices. This is driving the need for expertise in the area of applications development and integration. Knowledge of application optimization techniques such as protocol offload, caching, application firewalls and others would be required of applications development experts.

Enterprise Systems/Architecture Integration (EAI) includes experience in facilitating the integration of architecture deliverables within IT investment decision-making processes and within projects and programs, demonstrating effective use and knowledge of enterprise architecture development and implementation. One of the major challenges of EAI is to link together various systems residing on different operating systems, using different computer languages and different database solutions and in some cases, legacy systems that are no longer supported by the vendor who created them originally.

Data management skills are growing in importance. It is becoming less expensive to store data so more organizations are keeping more data on large-scale disk drives, because in the online world, content is king. The more content you have, the bigger you are and back-end SQL, MySQL and Oracle skills are in demand to ensure companies are successful at such large-scale data management.

An increased focus on generating revenues is pushing companies to deploy Customer Relationship Management or CRM. CRM is not just a technology but a comprehensive customer-centric approach to an organization's philosophy in dealing with its customers. This includes policies and processes, front-of-house customer, employee training, marketing, systems and information management.

Again, there is a significant overlay between those business or non-technical skills termed high priority and those deemed to be in limited supply. Four of the Top 5 non-technical or “soft” skills with the greatest shortage of IT talent are also among the Top 5 non-technical skills that are considered to be most important for IT professionals in their organization. These include: communication, creative thinking, problem solving/decision making and initiative/enterprise.

IT professionals require an ever-increasing range of “soft or people” skills to maintain relevance in the global work environment as IT has a fundamental role to play in the evolution and growth of businesses. Communication skills are a vital component to ensuring business growth and success. This is especially important given that IT projects are now planned and implemented across national and cultural borders.

In addition, IT professionals need to acquire transferable, problem solving skills and be capable of solving complex problems which don’t have a ‘right’ answer. Creative thinking, which involves defining the problem, generating and evaluating ideas is also another important skill in the world of work that is continuously evolving and changing.

Non Technical Skills- What’s Hot and What’s in Storage?

Top 5 Most Important Non-Technical Skills

Communication	83%
Problem-Solving & Decision Making	70%
Teamwork	58%
Creative Thinking	56%
Initiative & Enterprise	45%

Top 5 Non-Technical Skills with Greatest Shortage

Communication	64%
Creative Thinking	55%
Problem-Solving & Decision Making	51%
Initiative & Enterprise	46%
Self Management	42%

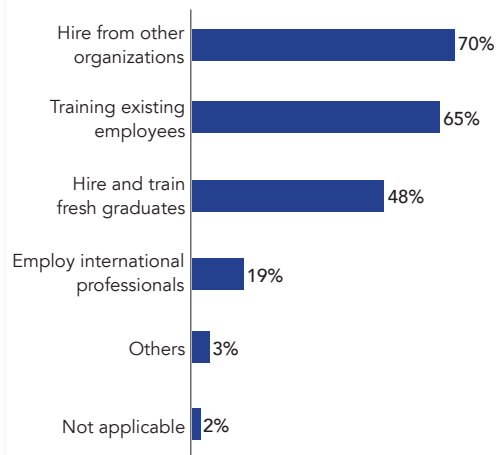
How Organizations Acquire Skills

To overcome IT technical skills shortages and cover gaps in IT skills, 70% of the survey respondents are looking beyond their own organizations, citing that the best means for remedying the shortfall in skills talent is to hire from other companies. This solution presents a significant vulnerability within the marketplace as more than one-third (36%) of respondent companies are described as having “weak talent retention programs”.

Training, again, takes prominence as a key solution to the IT skills deficit -- training programs directed at both existing employees (65%) as well as the hiring and training of fresh graduates (48%). Just 20% of respondents would consider hiring employees from abroad as a means for narrowing the IT skills gap.

In contrast, training existing employees is the most popular means for covering gaps in non-technical skills as indicated by nearly 70% of the survey respondents. Close to 60% of respondents would hire from other organizations and 40% said they would hire and train fresh graduates.

How do organizations acquire the technical skills considered most important for IT professionals ?



How do organizations acquire the non technical skills considered most important for IT professionals ?



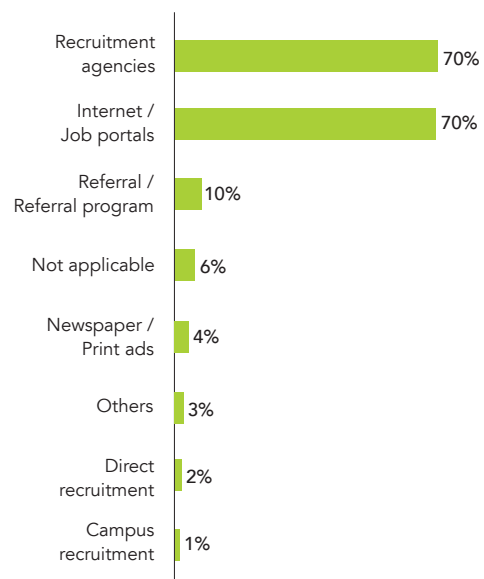
The vast majority of organizations (70%) seeking to fill positions in IT turn to recruitment companies and/or internet/job portals.

Navigating the waters of the changing IT labor market requires business acumen beyond matching a resumé with a job description. Organizations are now turning more to third-party recruitment companies for effective HR solutions and outsourcing their non-core operations like hiring, payroll and benefits administration. As hiring partners, recruitment companies work with HR to manage the lengthy process of selecting the right candidate and recruiting them by considering elements including business needs, labor market trends, what makes organizations desirable employers and deploys them to the organization's greatest advantage.

Recruitment companies also provide screening and background checking which are becoming a necessity in IT companies and departments because most IT employees have access to personal information of clients and employers want to verify the credentials before employing them. In addition, most companies think of their staff as assets and hence invest their time and money to ensure that these people are competent and highly productive.

Finding IT Talent

How do organizations recruit IT professionals?



Conclusion

The rapid growth of IT jobs and the sector as a whole in the past few years is in danger of being undermined by the shortfall in skilled talent. In reality, organizations will always face some type of IT skills gap. If they did not, they would not be growing and innovating to stay ahead of shifting market conditions and changing customer needs.

The shortages in IT skills vary by country in APAC and each will have a unique set of challenges for addressing any shortage. In addition to identifying specific technical and non-technical IT skills that are lacking, it is crucial for business organizations to understand the market forces driving the skills shortage. These include demographic changes, globalization, new technology and labor market reforms.

Demographic changes such as the movement of talent within a country or across borders, a graying population in some countries, higher levels of education and increased affluence are some of the factors causing the skills shortages.

Globalization has led to the migration of low-skill jobs to developing nations and as a result, puts a greater focus on skilled jobs.

Innovation and the introduction of new technology open up new industries which require specialized skills. They change the way industries currently work and render existing skills obsolete. In doing so, this creates more sophisticated consumers demanding higher valued-added goods and services.

Labor market reforms that promote transparency, flexibility and high performance, which give businesses and employees more choice than ever before, make it even more challenging for organizations to secure crucial competitive advantages and win in the war for talent.

Besides market forces, organizations should also seek to understand the problem of lack of skills in the context of their own company and conduct a skills audit to identify where the shortages lie. With the findings and analysis from this exercise, businesses can then explore ways to address the various issues.

Overcoming IT skills shortage does not have to be costly but it does require assessing the skills that employees possess, getting more efficiencies out from the current workforce and processes as well as thinking “out of the box” for ideas to attract and create a sense of belonging for the valuable talent so that they are able to continually learn, update their skills, and hone their knowledge in today’s rapidly changing environment.

Business organizations need to focus on their reputation, benefits, salary, environment and their branding as an employer of choice to attract and retain an effective and high performance IT workforce.

Our research has demonstrated that the IT skills shortage is real and is approaching a critical situation. Working together, employers, employees and other stakeholders must continue to think and develop solutions that are creative and long-term in focus to meet this challenge in order to realize future growth and success.



About Kelly IT Resources

Kelly IT Resources is a specialized business unit of Kelly Services, Inc. (NASDAQ: KELYA, KELYB) a world leader in human resources solutions headquartered in Troy, Michigan, offering temporary staffing services, outsourcing, vendor on-site and full-time placement to clients on a global basis. Kelly provides employment to more than 750,000 employees annually, with skills including office services, accounting, engineering, information technology, law, science, marketing, creative services, light industrial, education, and health care. Revenue in 2007 was \$5.7 billion. For more information, visit www.kellyservices.com.

Kelly IT Resources focuses exclusively on the employment needs of industries in need of IT talent and draws on the formidable resources and infrastructure built by Kelly Services. It's the best of both worlds – a company with specific Information Technology knowledge backed by a respected leader who has been staffing the world for more than 60 years.

At Kelly IT Resources, our approach is to understand the needs of both our candidates and clients and to identify the most appropriate candidate who will contribute successfully to the vision of the company.

Our focus is matching the staffing needs of technical organizations with highly qualified information technology professionals. We place IT professionals in contract, contract-to-hire and full-time employment positions across all IT disciplines, including:

- Senior Leadership
- Business Continuity Planning
- Programming
- Project Management
- IT Sales / Pre Sales & Marketing
- Data Management
- Business Development
- Enterprise Relationship Management
- Business Analysis
- Systems Administration
- Help Desk and Technical Support
- Network / Infrastructure

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