The New Era of the Knowledge Worker

Compete for Critical Talent with TalentNeuron™
Learn how the global talent landscape is changing, how outdated recruiting methods negatively affect business outcomes, and how to find the talent you need, even as these roles become more specialized.

Abstract

In the past five years, demand has risen steeply for new-age skills such as digital marketing, machine learning, Hadoop, and Web 2.0. Focus on technology has driven the need and demand for the knowledge worker (or skilled professional) in not just the IT industry but also across Pharmaceuticals, Financial Services, Media and Communications, and Retail. The current industry outlook shows these roles are here to stay—and dominate.

Most companies are struggling to meet their talent requirements at the same rate that these skills are developing. Cybersecurity talent, for instance, has become invaluable to companies in Retail, Financial Services, and other industries. Traditionally, IT was looked at as the enabler and had heavily outsourced this function. However, now HR is expected to not only learn the requirements for this talent but also plan for and execute hiring strategies for such skills. The failure of traditional planning models to recruit such skills has worsened skill shortages and increased the average time to fill globally.

We have identified the latest market insights and key trends that affect the global talent landscape. And we know what organizations can do to adopt new methods, overcome these challenges, and ultimately meet their talent needs.
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### About CEB TalentNeuron™  

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“With enhancement in technologies and products, new skills are being developed to make work easy.”

Dion Love
Senior Executive Advisor
CEB

Hyper-Specialized Talent

Talent is becoming hyper-specialized. But HR isn’t evolving to hire it.

Introduction

The global talent market looks much different than it did just five years ago. Regardless of industry, hiring for specialized and new-age skills has risen exponentially, and that uptick has spurred an evolution of such skills with increased specificity—within traditional knowledge worker roles.

In the field of data science, for instance, the roles of data scientist and data architect are evolving to include more specialized titles such as Big Data architects, Big Data engineers, and data ecologists, to meet the changing trends across the tech talent landscape. But fragmentation is not strictly a Big Data story. The trend is occurring across many other industries and domains, including Digital Marketing. This industry is seeing digital marketing specialists and e-reputation officers fragment to include digital strategists, creative directors, and heads of Digital.

Figure 1: Evolving New-Age Skill

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Scientist</td>
<td>30 times</td>
<td>Big Data Architects</td>
</tr>
<tr>
<td>Data Architect</td>
<td>3,440 times</td>
<td>Data Ecologists</td>
</tr>
<tr>
<td>Data Marketing Analytics</td>
<td>20 times</td>
<td>Director, Head of Forensic Data Analytics</td>
</tr>
<tr>
<td>Data HR Analytics</td>
<td>50 times</td>
<td>Director, Risk and Business Analytics</td>
</tr>
</tbody>
</table>

Hadoop’s Platform Status

R Programming Skill Gaining Popularity

Source: CEB analysis.

Challenges arise here, stemming largely from an inability (both at functional and organizational levels) to update recruiting methods in a way that sufficiently meets the needs of these rapidly created, specialized roles. The global time to hire has risen sharply, which means speed in hiring is declining. For example, CEB data shows that the average number of days to fill in for a mobile developer globally is 45 days.
In addition to analyzing the increase in time to hire, we have discovered six new realities that further complicate hiring for hyper-specialized talent:

- **Broadening Skill Gaps**—Enterprises have the head count they want, but they face a shortage of required new skills within those hires.

- **Traditional Methods Falling Short**—Previously tried-and-true hiring models (e.g., crowdsourcing, outsourcing, internal referral, and hiring from competitors and top universities) no longer effective. We capture the talent and critical skills organizations need.

- **Overlooking New Internal Opportunities**—Companies have the opportunity to source talent from within their new and existing locations, but internal organizational models are not designed to take advantage of this location footprint.

- **Searching Too Literally**—Vanity keyword searches don’t present leading market results, due to significant skill overlap within roles. Companies must think in terms of skill relationships, not keywords, to have the best chance of finding talent they need.

- **Overcrowding Traditional Sources**—University hiring has become incredibly competitive, but companies repeatedly recruit from the same set of top schools, and miss opportunities from Tier 2 or Tier 3 universities, where hyper-specific skills are being developed.

- **Repeating the Mistakes of Others**—Organizations heavily rely on taking talent from the competition when hiring for niche and other emerging skills, but those competitors often face the exact same skill gaps. The solution here is not getting better at taking other companies’ talent, but understanding which talent is really needed.

Companies need to approach the market differently, focusing more on where specific skills reside today than on the resources they have traditionally used to find those skills. Using our market insights from our ongoing analysis of the global labor markets, we compiled guidance to help our member companies know where and how to find the talent they need in this new age of the knowledge worker.
Our Guidance

1. Understand Today’s Skills Taxonomies

Job descriptions can often read like grand wish lists for ideal candidates. In many cases, companies update these posts by adding more and more desired criteria and skills to what they already want. These additions can significantly—and unintentionally—reduce the talent pool.

For instance, adding just two specific skill filters (e.g., Audit and Controls, and SOX Accounting) to a job post for a financial services organization can reduce the amount of available talent from 38,000 to 400 individuals.

![Figure 3: SOX Accounting Audit, London](image)

A professional working in Audit Controls can be trained to understand SOX accounting requirements; they don’t necessarily need to come in to the job with these skills. Companies can overlook these individuals by too rigorously applying skill filters to their job descriptions.

Besides using data, we map key trends through qualitative sources, such as new job announcements. We have found that when building job descriptions that look for multiple layers of skills, companies must be able to confirm that a skill is essential to a job before adding it as a filter.

2. Anticipate Emerging Demand

In today’s workplace, companies can no longer afford to recruit at the same pace as their competition. They must instead look into the unexpected places where talent and skills are emerging to find what they need before anyone else does.

To learn more about these emerging skills, recruiters need to track in-demand roles and analyze which roles start-ups are hiring. They should also study trends in venture capital activity and investments.

We readily provide such micro-level data, and we frequently update it with new, emerging roles and associated skills.

![Figure 4: Track Top and Emerging Skills](image)

Source: CEB analysis.
3. Explore New Adjacencies

Although putting too many parameters around a particular job opening may limit your talent pool, these filters can benefit talent availability as well, when used effectively.

You can improve these pools (in some cases, even double them) by looking at indirect but highly suitable talent from adjacent industries. For example, Figure 5 shows some available talent pools in similar skills for finding aerospace talent in Seattle.

Figure 5: Hiring for Aerospace Talent in Seattle

Example

<table>
<thead>
<tr>
<th>Key Engineering Skills</th>
<th>Aerospace</th>
<th>Automotive</th>
<th>Natural Resources and Mining</th>
<th>Construction</th>
<th>IT</th>
<th>Transportation</th>
<th>Health Care</th>
<th>Food and Beverage</th>
<th>Finance</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Engineer</td>
<td>3,880</td>
<td>115</td>
<td></td>
<td>810</td>
<td>465</td>
<td>520</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5,790</td>
</tr>
<tr>
<td>Electronics Engineer</td>
<td>5,125</td>
<td>70</td>
<td></td>
<td>1,155</td>
<td>360</td>
<td>70</td>
<td>70</td>
<td></td>
<td></td>
<td></td>
<td>7,210</td>
</tr>
<tr>
<td>Environmental Engineer</td>
<td>810</td>
<td>270</td>
<td></td>
<td>270</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,350</td>
<td></td>
</tr>
<tr>
<td>Industrial Engineer</td>
<td>4,210</td>
<td>60</td>
<td>295</td>
<td>415</td>
<td>475</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>475</td>
<td>5,930</td>
</tr>
</tbody>
</table>

Source: CEB analysis.

4. Use Data to Plan for Veteran and Diversity Hiring

Most companies have a significant opportunity to broaden their talent pool by increasing their military hiring. As shown in Figure 6a, the federal government hires the largest percentage of this talent in the United States, but the Retail and Defense and Security sectors also pull over 10% of veterans, respectively.

Together, the Federal, Retail, and Defense sectors made up nearly 73% of the total veteran workforce. Companies can learn from these industries and expand the extent to which they recruit from this talent pool.

Figure 6a: Veteran Distribution Across Industries

2% Health Care
3% Manufacturing
3% Energy
5% Finance
6% Diversified Services
7% Technology and Communications
11% Defense and Security
18% Retail

45% Federal Government

Source: CEB analysis.
The vast majority of our member organizations prioritize hiring women for specific leadership roles. And we track the global hiring trends of this push for diversity.

We offer data on talent activity within managerial roles, as well as within senior VP, directors, and above. Our findings extend to global labor markets, and specific locations. With this data, our member companies can self-assess broader recruitment goals and see how they compare with their global peers.

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**Figure 6b: Veteran and Civilian Distribution Across Industries**

Source: CEB analysis.

**Figure 7: Percentage of Women in Leadership Roles Across Industries**

Source: CEB analysis.
5. Don’t Assume Location Trends Are Only About the Future

Many organizations strive to reposition their business in new markets, but they struggle to learn how to draw those markets’ critical skills (not just skills with low costs) into their portfolio. To effectively do so, you must integrate a location-based strategy needs to be integrated into your talent acquisition strategy.

In the realm of cyber security talent, for example, location trends aren’t just useful in helping calculate returns over the next few decades. They also help you understand talent availability, scalability of operations, and your company’s growth in key markets.

Figure 8: Cyber Security Installed Talent Pool

Top Locations by Country

We gather labor market data on a particular location’s external factors (e.g., competition, labor laws, and economy) and allow members to compare attractiveness by analyzing multiple locations.
6. Question Traditional Geographic Boundaries

Analysis should not be limited to talent within traditionally defined geographic locations. Instead, expand to include larger catchment areas/cities to increase the size of the available talent pool.

For a clearer understanding of this concept as it relates to hiring, consider metrics such as average commute time and the general bias toward traveling to and from a certain area. These migration trends can help companies better learn talent’s exact origins and how they could benefit the overall business.

Figure 9: Synopsis of Talent Migration for Software Domain

Traditionally, catchment areas have been defined by major cities. But this causes companies to miss an opportunity to increase their talent pool by addressing knowledge workers who seek flexible work arrangements and commutes.

Each major location has a “tipping point” for the catchment area. In some cities, people are willing to commute up to 30 minutes, while in others, 90 minutes, and so on.

For example, you can use our data to gauge that tipping point and deliver specific advice about the geographic span you should be analyzing to attract the greatest possible talent pool for key locations.
Closing Thoughts

Change is everywhere in today’s workplace, and organizations can view it either as an obstacle or an opportunity.

By discarding outdated methods of hiring and applying new guidance, businesses can fill the new, more specialized roles they need faster and more successfully. Effective hiring can then ripple throughout your organization to ultimately generate greater business returns.

We can help get you there using our data, analytics, and decision support to facilitate talent planning and acquisition. Even as needs and roles evolve and fragment, our technology platform of data and insights enables HR to proactively engage with business on strategic talent needs.

About CEB

CEB is a best practice insight and technology company. In partnership with leading organizations around the globe, we develop innovative solutions to drive corporate performance. CEB equips leaders at more than 10,000 companies with the intelligence to effectively manage talent, customers, and operations. CEB is a trusted partner to 90% of the Fortune 500, nearly 75% of the Dow Jones Asian Titans, and more than 85% of the FTSE 100.

About CEB TalentNeuron™

CEB TalentNeuron enables HR to proactively engage in talent planning with the business on strategic talent needs. This powerful combination of data and insights on a cutting-edge technology platform provides you location, talent, and competitive intelligence.