THE IT SKILL GAP EXPLAINED

Both employees and leaders in the IT field are familiar with the IT skills gap. For digital enterprises today, IT not only supports the business – it often is the business. The IT skills gap illustrates that companies sometimes have a difficult time finding, hiring, and retaining employees with the IT skills they need, to ensure quality products.

Industry experts are split. Some argue that the IT skills gap doesn't exist (in the United States, at least). More experts, however, argue that the gap exists, though to varying degrees. Either way, the biggest concern is how companies address these current issues in the short-term to ensure that they don't grow into larger issues down the road.

In this article, we're examining the IT skills gap – how it exists today and what we can do to improve the situation.

Defining Skills Gaps and IT Skills

Forbes defines a skills gap as the difference between what companies need or want their employees to do and what employees are actually able to do. A skills gap can apply to any skills area: hard skills like sales, business, finance, and IT, as well as soft skills like interpersonal communication and time management.

As IT has become the backbone of business in the 21st century, IT skills include an ever-broadening set of skills. IT skills can include general operations and systems knowledge and communication

required to run a help desk, programming in a seemingly endless number of languages, and managing IT personnel in any number of IT philosophies, such as agile and DevOps.

When we talk about the IT skills gap, needed skills vary widely based on different companies' needs as well as the needs of specific jobs within one company.

The State of Skills Gap in 2019

A 2017 Forbes report on IT service management says that C-level executive report a lack of IT skills as the biggest issue in aligning IT with business services. Many CIOs report that the IT skills gap applies to employees and candidates within the higher echelon of their IT teams. Leaders are able to staff and retain help desk and entry- and mid-level programmers, but as technology silos narrow down evermore into special areas, companies say it's harder to find enough people with the precise qualifications needed.

In 2019, the IT skills gap continues to expand with rising demand and inadequate supply. According to a World Economic Forum report, 133 million new roles may emerge globally by the year 2022. The primary growth drivers include the proliferation of Artificial Intelligence and Machine Learning technologies. Despite the advancement of technology, organizations will continue to rely on the human workforce for creative problem solving. Intelligent computing systems are expected to complement the human workforce and not entirely replace them, which in turn requires organizations to re-skill their workforce to take advantage of the technology advancements.

According to another research survey conducted across over 1000 business executives in the US, organizations are struggling recruit the right candidate due to the skills gap and the education system is not doing enough to address the cause. The research finds that 75% of organizations believe that the skills shortage among applicants is the primary cause for the difficulty in hiring. 51% believe that the education system is doing little or nothing to solve the problem.

Cause of IT Skills Gap

Industry insiders cite many reasons for this IT skills gap, including:

- **The demand is increasing.** As companies need to both maintain and optimize ever increasing technology, they need more people to support this mission. Many organizations are pursuing digital transformation initiatives, only to realize the projects are inherently dependent upon onboarding individuals with the right skillset. As a result, a sudden increase of IT skills has emerged in recent years.
- **The supply is decreasing.** Jobs in IT grew by 13 percent between 2002 and 2013, yet those who graduated with IT degrees shrunk by 11 percent over the same period. IT skills requirements also change rapidly through the years. In the period 2018 to 2022, an average of 42% of shift in IT skills is expected. Hiring managers are therefore increasingly focusing on recent graduates equipped with the latest digital skills most relevant to their digital transformation initiatives.
- **The need for IT is spreading.** Early on, only traditional businesses were implementing technology. Today, however, industries beyond business require vast amount of IT, especially education and healthcare. Cloud computing and artificial intelligence solutions are the primary drivers for this trend. Not every organization needs to develop and deploy a technology solution in-house. Instead, they can leverage SaaS services readily available as an affordable

OpEx. However, IT professionals with the right skills to take advantage of these latest digital solutions are still needed across all organizations.

- **The way we learn IT skills is changing.** More people are re-tooling outside of traditional degree-granting colleges and universities, opting instead for short-term, intensive developer boot camps that provide the hard IT skills, but leaving this population short of degrees. This lack of a formal degree may mean that without a specific degree, some companies are missing out on this talent pool. Further, the boot camps focus primarily on programming skills – and considerably less time on business know-how, which could affect a candidate's soft skills for a position.
- **The specialization within IT is double-edged.** With IT booming, candidates can specialize in just one or two areas. But, companies that require too narrow or specific a specialization will often come at the expense of a candidate with broader technology and business knowledge. Additionally, the technology landscape is evolving continuously. Individuals specialized in a select few skills will be required to learn additional skills to leverage the advancing technologies.
- **The reliance on IT as an emergency responder continues.** Despite companies continuing to transition towards a proactive IT and business approach, IT still acts as emergency responders too often. Many organizations continue to spend a majority of their budget on maintenance instead of on project development, innovation, and improving the organization's competitiveness.

The Severity of the IT Skills Gap

While there is a significant amount of agreement around the existence of the IT skills gap, opponents point to the current unemployment rate in the U.S., under 5% in Q4 of 2017, as some proof that the IT skills gap either can't exist or can't be as serious as some argue.

Indeed, whether the skills gap is industry-threatening or merely one of many issues facing businesses today depends significantly on who you are. A recent TEK Systems study surveyed more than 1,300 leaders and professionals in IT in the U.S. Interestingly, leaders and those working in the field share some beliefs on the IT skills gap. Variations among them, however, may illustrate lack of understanding, lack of communication, or lack of standardization.

Across the board, more than 75% of those surveyed agreed that the perceived IT skills gap is real. They further agree that only one-third of companies have the talent in-house to meet their IT needs.

But, compared to IT professionals, leadership believes that this gap has a significant negative impact. This could be due to their macro view, which often underscores negatives more than positives. Perhaps some leaders have diverging understandings of what IT does and what IT needs.

This bears out further in comparing responses to why candidates and open IT positions don't match. More than half of surveyed IT leaders reported unqualified candidate pools (similarly, candidate pools that don't align to business needs), small pools of candidates, and budgetary constraints – preventing them from hiring more ideal candidates.

At the same time, surveyed IT professionals reported that many job requirements are unrealistic, and that company's expectations do not align with compensation budgets. Of the IT professionals surveyed, 41% further reported that the experience and/or expertise that companies demand is too niche.

Interestingly, while some blame a lack of extensive education, only a quarter of IT professionals currently at work in the field agree.

The severity of the IT skills gap is also illustrated in the impact on IT teams. Seventy-one percent of IT leaders surveyed reported decreased efficiency, and 63% of IT workers agree. The reasons for this inefficiency? Leaders see that it negatively affects project completion and time-to-market 69% of the time, while professionals say this is an issue only half the time.

Remedying the IT skills gap

Without a strategic plan for the IT workforce, companies will continue having difficulties finding quality IT candidates. When positions go unfilled, there is the immediate impact of inefficiency, but there's collateral damage, too. Decreased employee morale leads towards attrition. This means companies risk losing existing talent.

So, what measures are companies taking to fix this gap?

Surveyed companies rarely have a long-term strategic workforce plan, but more than half of them reported short-term fixes including training and developing the current workforce, outsourcing current projects, and increasing the use of contract/temporary workers.

There was a major drop-off when it came to employee benefits, with only one-third of companies investing in education, 26% offering flexible hours and telecommuting options, and a mere 9% offering more lucrative compensation packages.

Longer-term, companies need to adapt new practices to both attract new and retain existing talent. Indeed, communication is a major issue, and the perceived differences between IT leaders and works indicates this. There is little clarity around hiring: why one candidate was chosen over another, or what a candidate was lacking that he could then improve upon. Until this feedback loop is closed, the skills gap cannot be bridged.

There's also a lack of standardization. Surely, a majority of jobs in the IT sector fall within a certain range: help desk, entry- and mid-level programmers, high-end programmers, security specialists, management with programming experience, etc. With consensus general job titles, candidates can better prepare for the industry. Further, when jobs are standardized to a realistic extent, job descriptions themselves can sound more realistic, instead of the big-ticket wish list many read as now. This will help candidates find "perfectly good" candidates for a position instead of the one "perfect" candidate.

For most companies, this talent gap is self-inflicted. Addressing the skills gap will take time, but by planning strategically and increasing communication, clarity, and standardization in job expectations, candidates can better prepare.

Responding with Transforming Workforce Development

Another facet of the IT skills supply-demand gap concerns the response of business organizations – how they utilize their existing HR resources, attract the right workforce to address the right functional requirements and match the pace of technology change.

Salesforce recently conducted a survey of 750 hiring managers and found that the Fourth Industrial Revolution necessitates transformative workforce development strategies in response to the

changing landscape of the IT talent market.

The report suggests that new hires alone will not suffice in filling the talent void. The competition for talent will become even more intense, by 55%, while 58% of the respondents believe that transformative new workforce development methodologies will be required to equip the existing workforce with the new skills. According to another research report by the World Economic Forum, emergence of new technologies is driving growing skills instability. The skills relevant today may not be entirely sufficient tomorrow. Around 54% of all employees will require significant reskilling by the year 2022.

The transformation in IT landscape has been rapid and the skills gap has emerged as a consequence of decisions made by business organizations, education system and IT professionals. According to the survey, hiring managers believe that an overhaul of training at the academic level is required along with formalized education programs at the workplace. The proportion of IT professionals opting for hard skills in data science and business intelligence is small and inadequate to fulfil the growing demand in the industry. Bootcamps and training programs at the workplace, as well as online courses in IT skills for the fourth industrial revolution teach the necessary hard skills but the necessary soft skills lack still. Around 70% of hiring managers suggested that soft skills such as collaboration and team work, judgement and decision-making, creative/abstract thinking and emotional intelligence will become increasingly essential.

Once hired, both the employers and employees are expected to contribute toward the overall workforce skill development initiatives. Employers need to retain skilled workforce over the long term. Employees need to broaden their skillset with both technical and human skills such as creativity, critical thinking and negotiation to keep up with advancing technologies.