Digital Skills With High Growth in Demand for Accelerated Digital Transformation

COVID-19 has sped up organizations' digital transformation journey. CHROs must stay on top of trending digital skills and capabilities to calibrate talent strategies such
as hiring and training plans to support the organization to win in a more digitalized business environment postpandemic.

Overview

COVID-19 is accelerating digital transformations in organizations, resulting in businesses' skills needs changing at a faster pace than before. This change in the pace of skills needs calls for a dynamic skills assessment for organizations to avoid missing out on critical opportunities. At the same time, COVID-19 has raised the pressure for organizations to optimize costs and carefully review all investments in order to survive and thrive in the pandemic. HR leaders need to make informed decisions to prioritize digital skills and capabilities around which they will hire and train their staff. This research helps HR leaders achieve the goal by highlighting market trends on in-demand digital skills that have seen high growth in hiring volume from leading organizations.

Key Findings

- Among the 46 digital skills identified in our analysis as high growth in demand, only artificial intelligence (AI) and Microsoft Power BI are common across the three leading organization groups (FAANG, Unicorns and S&P 100), indicating a high diversity in digital skills demanded among different organization groups.
- The FAANG organizations are focused on enhancing the reliability and security of their enterprise digital infrastructure, as they have increased hiring for digital skills such as disaster recovery and cybersecurity over the past three years.
- The Unicorns are increasing hiring for digital skills key for enhancing deep AI capabilities such as neural networks and computer vision.
- S&P 100 companies' increased skills hiring includes endpoint security and access governance. This indicates an increased focus on data and cybersecurity, potentially driven by the increasing number of cyber attacks and recent risks posed by the majority of employees working remotely.

COVID-19 Has Accelerated Digital Transformation

Across industries, the COVID-19 pandemic has caused widespread disruption, ranging from halted operations to threatening entire industries and business models. The pandemic has created a wide divide between organizations with great digital capabilities and those that were still building them. The former have emerged stronger through the crisis. Digital capabilities have proven to be a key competitive advantage for organizations in serving customers remotely, managing remote operations and supply chain, and enabling remote work for the majority of the workforce. Understandably, a majority of boards of directors participating in a recent Gartner survey agree that they have accelerated digital business initiatives, with around one-half claiming that the COVID-19 disruption has led their organization to increase investment in digital technologies.

As organizations aim to accelerate digital transformation as a top priority, they will need to develop digital skills among the workforce to support the business strategy. In fact, availability and access to desired skills is ranked by the board of directors among the top three major external trends that are shaping the business strategy, only preceded in rank by prospects of recession and digital disruption. While the majority of organizations continue to restrict hiring, previous economic crises have shown that organizations that emerge stronger through the crisis are those that can leverage the downturn to build long-term business and talent capabilities. As organizations plan to restart hiring and develop capabilities of existing staff, they must prioritize key digital skills to support the accelerated digital transformation strategy.

The Key HR Question Centers on Which Digital Skills to Prioritize

As organizations aim to build digital skills under the pressure of cost optimization, the key question many HR leaders will have is, “Which digital skills/capabilities should I prioritize?” Part of the answer comes from the capabilities that organizations are looking to develop. For instance, a recent Gartner survey of 36 boards of directors found the top two game-changer technologies to emerge from COVID-19 for their organizations are analytics (78%) and artificial intelligence (69%). The other top digital capabilities in focus are autonomous things, cloud computing and smart spaces.

These organization capabilities are a good guide for HR leaders. However, Gartner research shows that to identify skills in new and emerging areas, relying solely on business leaders’ perspectives may not be enough. The skills landscape in these emerging technologies changes rapidly. It’s hard for most business leaders to track and assess the skills they need to build these digital capabilities. Hence, it is critical for HR leaders to diversify the sources of inputs for skills needs analysis and build up their capability for dynamic skills assessment and always-on skills sensing to understand the skills they should prioritize in hiring and development. This is even more important when the budget is tight.

One of the critical sources of inputs for organizations’ digital skills needs is the labor market intelligence on the skills in demand by competitors and leading organizations. The intelligence on digital skills demanded in the market can offer HR leaders an independent input to validate and influence business leaders’ digital skills needs analysis. To aid HR leaders’ decisions about which digital skills to prioritize, we used Gartner’s TalentNeuron platform to analyze the demand of digital skills by three leading

organization groups in the U.S. — FAANG (Facebook, Apple, Amazon, Netflix and Alphabet/Google), Unicorns and the S&P 100 (excluding FAANG). We identified the digital skills having seen high growth in demand from these organization groups since July 2017.

The analysis aims to provide directional guidance and benchmarks. However, the identified digital skills may not be universally sought across the organization groups, and their demand can often vary across organizations. Not all skills highlighted here based on the past data may sustain demand, or become or remain prominent in the job market in the future. More information on the analysis is provided in the About This Research section.

Digital Skills Seeing Strong Growth in Demand

Our research identified 46 digital skills that had seen strong growth in demand, meaning above the 75th percentile by annualized demand growth, from at least one of the three leading organization groups (see Table 1).

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Table 1: Digital Skills Seeing Strong Demand Growth, by Organization Group

Viewing partial table. Click here to view full table

Digital Skills Seeing Strong Demand Growth From FAANG	Digital Skills Seeing Strong Demand Growth From Unicorns	Digital Skills Seeing Strong Demand Growth From S&P 100	Digital Skills Seeing Strong Demand Growth From All Organization Groups (Common for All)	Digital Skills Seeing Strong Demand Growth From Two Organization Groups (Common)
■ Cybersecurity ■ Digital Experiences ■ Disaster Recovery ■ Enterprise Architecture ■ Solutions Architecture	■ Augmented Reality ■ Back-End Systems ■ Cloud Operations ■ Computer Vision ■ Containerization ■ Embedded Systems ■ Neural Networks ■ Platform as a Service ■ TensorFlow	■ Access Governance ■ API Design ■ Asana ■ Azure Active Directory ■ Cloud Implementations ■ Data as a Service ■ DevSecOps ■ Dynamics 365 ■ Edge Computing ■ Endpoint Security	■ Artificial Intelligence ■ Power BI	■ 5G ■ Blockchain ■ Cloud Architecture ■ Data Insights ■ Information Privacy ■ Infrastructure as a Service ■ ServiceNow ■ Snowflake

Forty-six digital skills have seen strong growth in demand from at least one of the three leading organization groups. Among these 46 digital skills, two have seen strong demand growth from all three organization groups. Eight skills have seen strong demand growth from two of the three organization groups. Five skills have seen demand growth from FAANG only; 10 skills have seen growth in demand from the Unicorns only; and 21 skills have seen growth in demand from the S&P 100 only.

Our analysis shows a high diversity in digital skills growing in demand among different leading organization groups. Of the 46, only two digital skills — less than 5% — see high growth in demand from all three leading organization groups, and eight other digital skills see high growth in demand from two of the three groups. The other 36 digital skills see high growth in demand from only one of the three organization groups, indicating emerging or unique digital capabilities these organizations are building.

To benchmark the digital skills for your organization:

- Compare your planned digital capabilities with the relevant organization group to assess your digital skills portfolio and plans.
- Share the insights with your leadership team to showcase the digital capabilities indicated by the digital skills these organizations are developing.

Digital Skills Seeing Strong Demand Growth From Leading Organizations

AI and Power BI are the top digital skills seeing the highest growth in demand from July 2017 through June 2020 across FAANG, Unicorns and S&P 100. These digital skills are the most critical to review for organizations across industries if they are looking to develop digital capabilities. Among the two digital skills, AI had a much higher job demand volume from these leading organizations from July 2019 through June 2020.

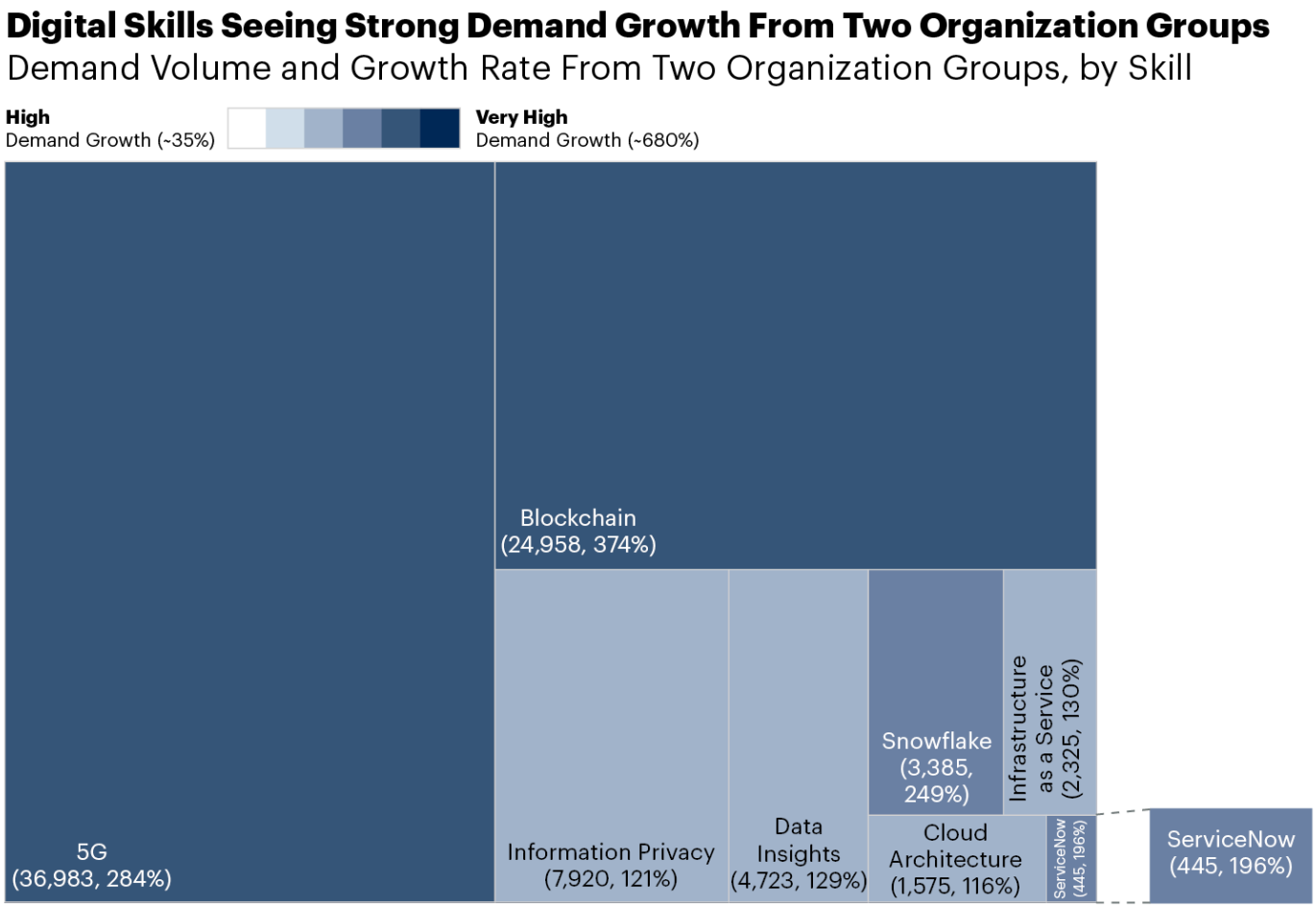
We've plotted other digital skills that have seen strong demand growth in charts in the figures in the following paragraphs and sections. To read these charts, note that each box represents one digital skill. The size of the box indicates the demand volume of the skill from the respective organization group(s). The higher the demand volume, the bigger the box. Further, the color shading represents the demand growth rate of a skill. The stronger the demand growth, the darker the box.

5G and blockchain are seeing strong demand growth among at least two leading organization groups (see Figure 1). These skills also have relatively large demand volume among all digital skills in this group, suggesting an increasing focus among leading organizations on the next-generation digital infrastructure that's faster, more reliable and secured. These two digital skills are critical to review if your organization is looking to develop the aligned digital capabilities.

Information privacy, infrastructure as a service and cloud architecture are other critical digital skills that show relatively lower demand growth. However, there has been good hiring volume for these skills from leading organization groups. This indicates that cloud infrastructure and the ability to address the increased privacy risk coming with the adoption of cloud services have been among the sought-after capabilities since July 2017. Many organizations are increasing investments in cloud computing infrastructure to scale up their support of employees working remotely. There are also many organizations taking this opportunity to move their services and go-to-market approaches to the cloud, which will also mean an increased demand for application and software developers and engineers specializing in cloud computing.

HR leaders should review the digital skills mix their product teams are hiring for and ensure they don't miss out on these three or similar digital skills if their organization is focused on building cloud computing capabilities.

Figure 1. Digital Skills Seeing Strong Demand Growth From Two Organization Groups



Source: Gartner TalentNeuron (2020)

Note: The number and percentage in the parentheses beside each skill are the corresponding total demand volume from two organization groups from 1 July 2019 through 30 June 2020 and average annualized demand growth rate since July 2017. The S&P 100 employer group excludes FAANG organizations. Unicorn organizations are defined as private companies valued at $1 billion (Reference: CB Insights and Tech Startups visited July 2020). Size of the box represents respective skill demand volume from 1 July 2019 through 30 June 2020.

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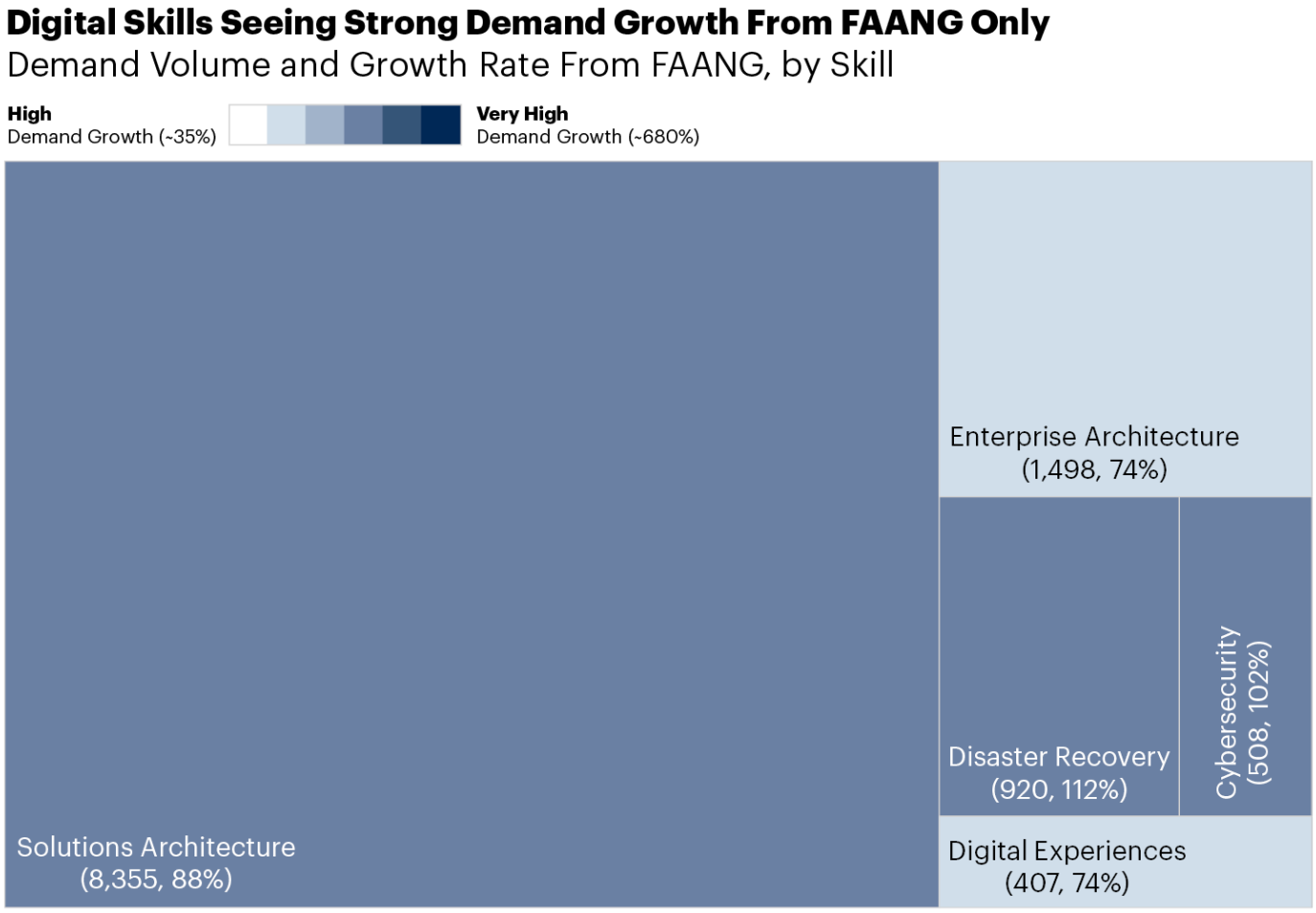
Digital Skills Seeing Strong Growth in Demand From FAANG

The leading technology giants Facebook, Apple, Amazon, Netflix and Alphabet (Google) are hiring solutions architecture, enterprise architecture and disaster recovery in higher volumes as compared to other digital skills (see Figure 2). These digital skills are not being hired at the same pace by other leading organizations. Among these digital skills, disaster recovery has seen the highest growth in demand from FAANG since July 2017. However, the demand growth for disaster recovery is primarily driven by Amazon — almost 80% of job postings over the past three years with requirements of this digital skill came from Amazon. Furthermore, Amazon has also dominated job demands for solution architecture and enterprise architecture. Among all job postings from this organization group in the past three years, almost 90% of postings for solution architecture and about 92% of postings for enterprise architecture came from Amazon.

Other digital skills having seen high growth in demand from the FAANG group include cybersecurity and digital experiences. This indicates an increasing focus among FAANG organizations on enhancing the security capability and reliability of digital infrastructure. HR leaders should be cautious if their organization has increased hiring for other digital capabilities but not for cybersecurity and data security. In the extreme case when all businesses are digitalized, which may become the case postpandemic, security capabilities will be critical to ward off cybersecurity risks that can threaten all operations.

Figure 2. Digital Skills Seeing Strong Demand Growth From FAANG Only



Source: Gartner TalentNeuron (2020)

Note: The number and percentage in the parentheses beside each skill are the corresponding demand volume from FAANG from 1 July 2019 through 30 June 2020 and annualized demand growth rate since July 2017. Size of the box represents respective skill demand volume from FAANG from 1 July 2019 through 30 June 2020.

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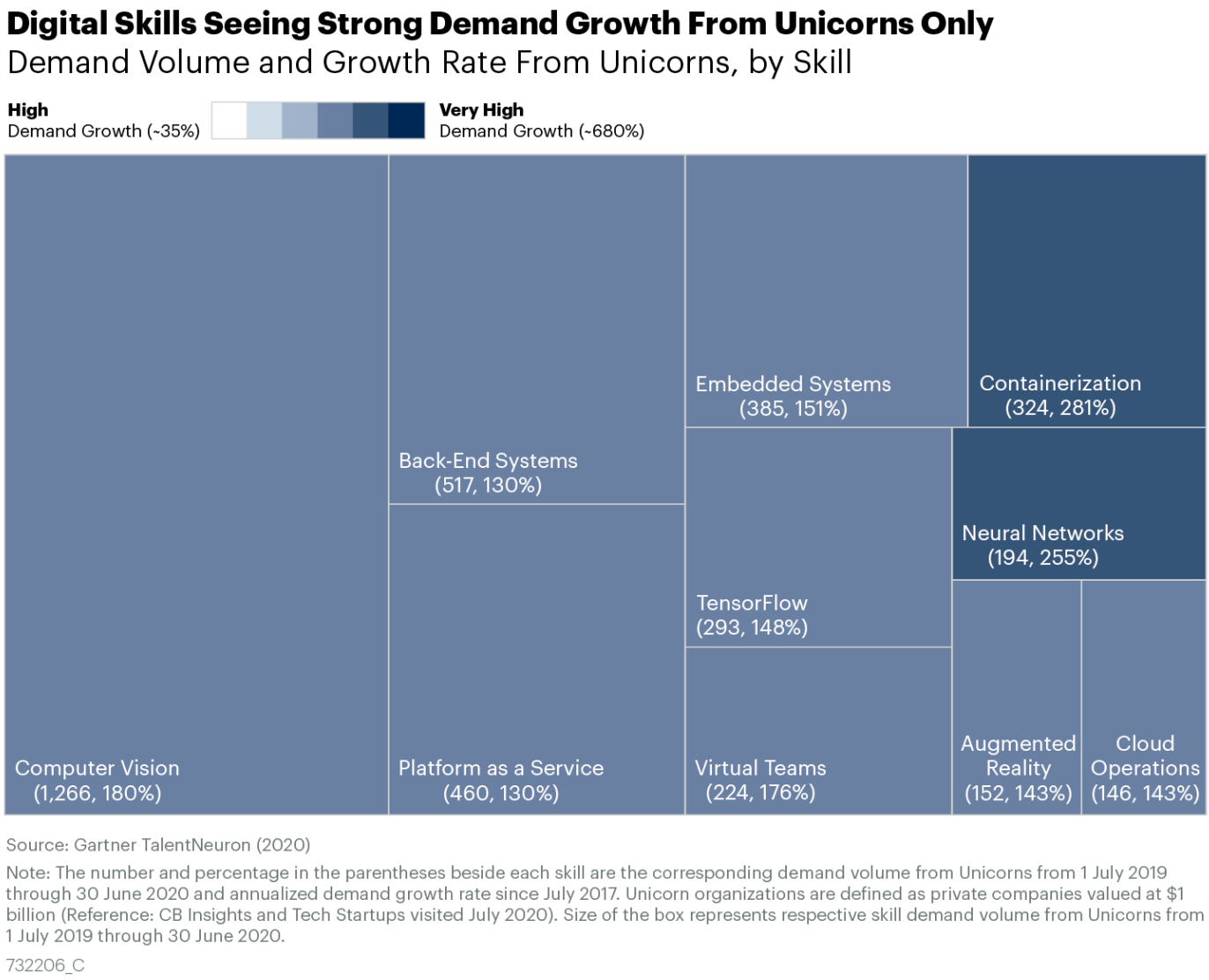
Digital Skills Seeing Strong Growth in Demand From Unicorns

The Unicorns group includes startups in the U.S. valued at over $1 billion and gives us insight into some of the emerging digital skills and capabilities. Among all the digital skills seeing demand growth in this segment, these organizations are hiring in higher volume for computer vision, back-end systems and platform as a service as compared to other digital skills. We see the highest growth rate in demand for containerization and neural networks (see Figure 3).

Figure 3. Digital Skills Seeing Strong Demand Growth From Unicorns Only



Source: Gartner TalentNeuron (2020)

Note: The number and percentage in the parentheses beside each skill are the corresponding demand volume from Unicorns from 1 July 2019 through 30 June 2020 and annualized demand growth rate since July 2017. Unicorn organizations are defined as private companies valued at $1 billion (Reference: CB Insights and Tech Startups visited July 2020). Size of the box represents respective skill demand volume from Unicorns from 1 July 2019 through 30 June 2020.

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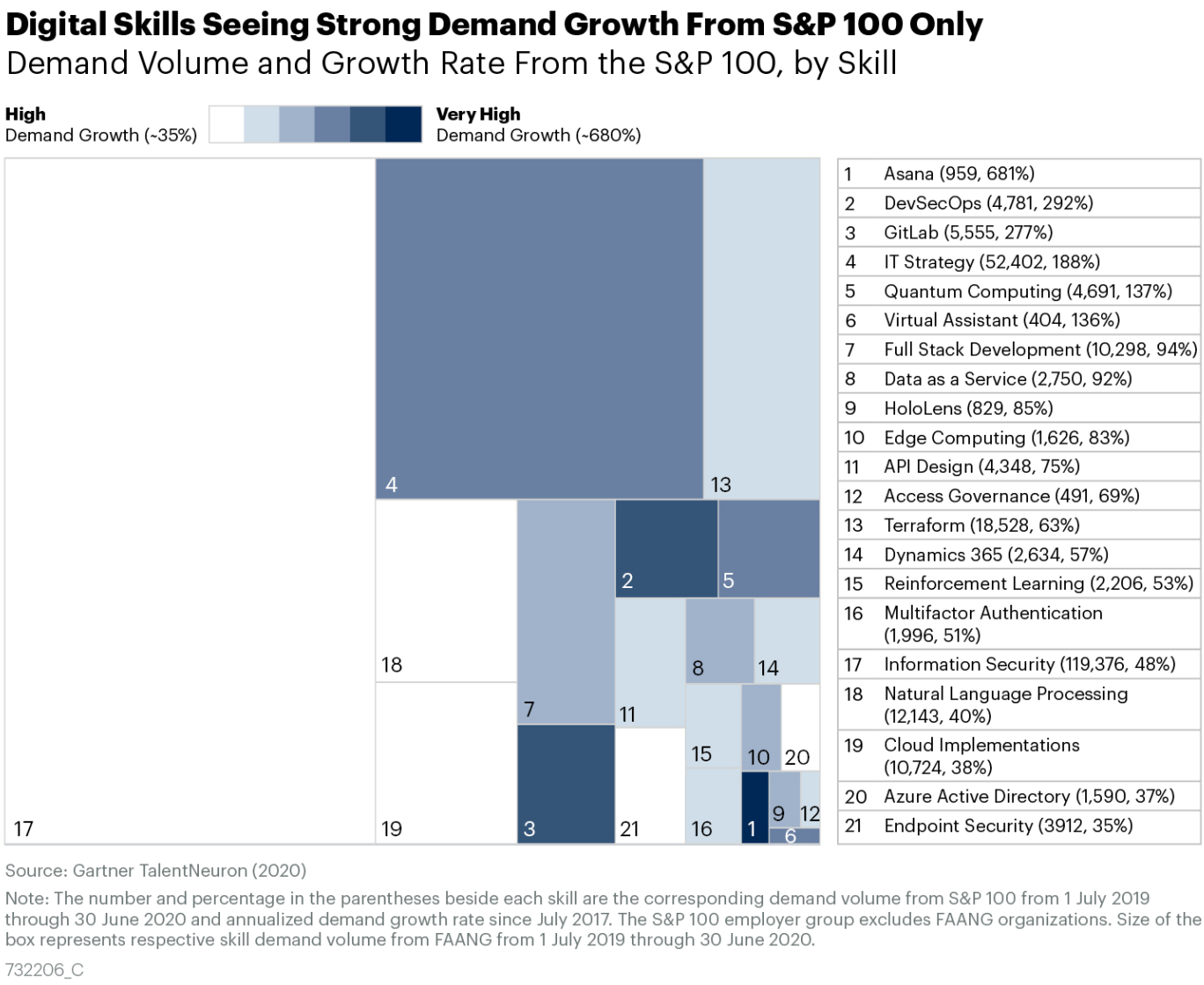
The skills demand among Unicorns indicates increasing talent investments to leverage deep AI skills such as neural networks and computer vision. Unicorns are usually in a high-growth phase and can be attractive to technology talent since they usually pay high salary premiums. Apart from using these skills as benchmarks to their skills portfolio, HR leaders also need to factor this competition into their hiring plans in case their organizations are also building deep AI capabilities.

Digital Skills Seeing Strong Growth in Demand From S&P 100

The organization grouping of S&P 100 gives us a cross-industry, large-enterprise benchmark to identify the digital skills these companies are increasing hiring for. The digital skills seeing strong growth in demand and having the highest demand volume from these companies include information security, IT strategy, Terraform, natural language processing and cloud implementations (see Figure 4). Among these high-demand digital skills, IT strategy and Terraform have the strongest growth in demand from the S&P 100. Another digital skill, Asana, has seen the highest demand growth rate from S&P 100.

However, its demand volume is much lower than the demand volume of information security, IT strategy or Terraform.

Figure 4. Digital Skills Seeing Strong Demand Growth From S&P 100 Only



Source: Gartner TalentNeuron (2020)

Note: The number and percentage in the parentheses beside each skill are the corresponding demand volume from S&P 100 from 1 July 2019 through 30 June 2020 and annualized demand growth rate since July 2017. The S&P 100 employer group excludes FAANG organizations. Size of the box represents respective skill demand volume from FAANG from 1 July 2019 through 30 June 2020.

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The results suggest that S&P 100 companies have an increased focus on tapping into unstructured data for business intelligence because they are increasing hiring for digital skills such as natural language processing. Another key digital capability S&P 100 companies are potentially building and are hiring for is data security and cybersecurity, suggested by the fact that they are increasing hiring for digital skills such as endpoint security and access governance. This could be potentially driven by the increasing number of cyber attacks in the past few years and the increased risk they pose to business success and continuity, along with recent risks posed because the majority of employees are now, and will likely continue, working remotely.

Conclusion

As organizations prioritize investment in hiring and developing digital skills, the fast-growing, in-demand digital skills across organization groups can help HR leaders ensure they are investing in the right digital skills for their organization by assessing the digital skills demand across leading organizations. HR leaders also can stay on top of trends to understand and inform leaders on digital capabilities leading organizations are trying to develop.

About This Research

To provide benchmarks on the digital skills that may become critical for future business success of most organizations, we analyzed demand growth for key digital skills based on job postings from leading organizations, meaning FAANG, Unicorns and the S&P 100, in the U.S. from 1 July 2017 through 30 June 2020. We identified these key digital skills (including complementary skills and adjacent skills) using the TalentNeuron Skill Adjacency module based on key digital capabilities identified in the 2020 Planning Guide Overview: Building Skills for Digital Transformation. The threshold demand growth rate of skills to identify critical digital skills for a specific employer group is the 75th percentile by annualized demand growth rate [5] of the top 2,000 in-demand skills (72% for FAANG, 130% for Unicorns and 35% for the S&P 100). We also eliminated low-demand digital skills to avoid calling out digital skills with ad hoc scattered demand. Data was retrieved from Gartner TalentNeuron, which collects hiring and job demand data from various sources such as company career sites and job boards.