

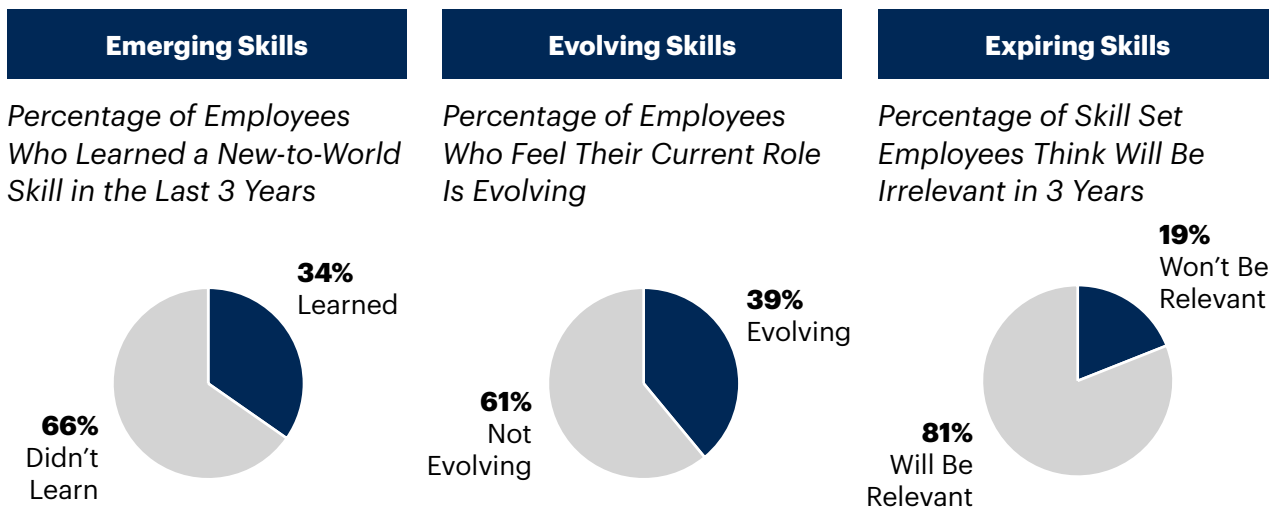
# How to Use Analytics to Predict Skill Needs

by Aditya Roy and Shubham Agarwal

The nature of work is evolving. We are on the cusp of a fourth industrial revolution, which will significantly disrupt the workplace and the business ecosystem. Digital technologies such as artificial intelligence, data analytics and Internet of Things will be key enablers for organizations in the next decade. As a result, leaders realize acquiring or building the “right talent” who can develop and use these new technologies is essential. However, rapidly changing technology leads to a sudden change in skills needs, so the definition of “right talent” changes every year, if not more frequently (see Figure 1).

As skill needs rapidly evolve, the most successful organizations use talent analytics to analyze and assess which skills are in demand today and in the future. In fact, HR can leverage many sources (e.g., job boards, trade publications) to clarify shifting skills. This permits a radical shift from the typical reactive approach of filling talent gaps to a proactive approach of predicting the critical skills based on business strategy and marketplace data. New data and analytics enables talent analytics leaders to help their leadership teams identify future skill needs, even before CHROs and business leaders recognize skill needs are shifting.

**Figure 1: Emerging, Evolving and Expiring Skills**



n = 7,101 employees (emerging); 7,101 employees (evolving); 21,247 employees (expiring)

Source: 2018 Gartner Shifting Skills Survey; 1Q18 Gartner Global Labor Market Survey

To showcase how talent analytics can play a role in predicting organizations' skill needs, we provide an example and lessons learned from our TalentNeuron data.<sup>1</sup> We focus specifically on agile skills, as there is increasing interest from organizations and leaders in the domain, and decreasing clarity on what agile skills actually look like and how important they will become. We mapped the current and likely future states of these agile skills based on demand and growth trends.

## Defining Agile Skills

Agile is defined as a collaborative way of working that embraces change, drives efficiency through iteration and customer testing and measures success through outcomes rather than inputs. Agile has gained recent popularity in many domains, but it was initially created as an alternative to the traditional model of product development, the waterfall model.

Agile has become a hot topic in recent years with many organizations (especially in the tech sector) looking to hire employees with agile skills. Despite its popularity, defining what agile skills actually look like can be challenging. Understanding and organizing the skills in a trendy domain is the first role talent analytics leaders can play.

Based on our research, we categorized agile skills into two parts:

- **Process or framework** — Agile skills and practices that impact process changes and provide guidelines for implementing agile methodologies; examples include DevOps, Scaled Agile Framework, Kanban, requirement analysis and continuous testing.
- **Tools or software** — Agile skills utilized for implementing agile methodologies and practices; the tools are typically in the form of programming languages or software such as Atlassian, Jenkins, Confluence, Git and Trello.

Talent analytics leaders looking to define skills in a domain like agile before they start analysis should seek to build as comprehensive a list as possible. They should determine the framework and the technology that will help them

implement the skills in the organization. Some of the questions to ask are:

- What skills do business leaders and recruiters at your organization consider to be part of the domain?
- What related skills are other organizations including in job postings?
- What kind of frameworks and technologies are available today to support implementing the required skills in the organization?
- How do the skills group together? (This will ensure you are comprehensively thinking about the domain and will also help later with analysis.)

## Mapping Demand and Growth of Agile Skills

Even in a popular field like agile, not every skill has the same level of importance. Therefore, the next step is using modeling to understand which skills are increasing in importance, staying the same or decreasing.

To determine where each skill is in its life cycle, talent analytics leaders should examine current and historic job demand data for each skill. The data will help teams understand the volume and growth of the demand (CAGR) over a specific period of time. These parameters help determine which skills are in demand (high demand and high growth) and which skills are emerging (low demand but high growth). The emerging skill set will become the in-demand skills of the future; the analysis helps HR leaders take a proactive approach to fill in the talent gaps.

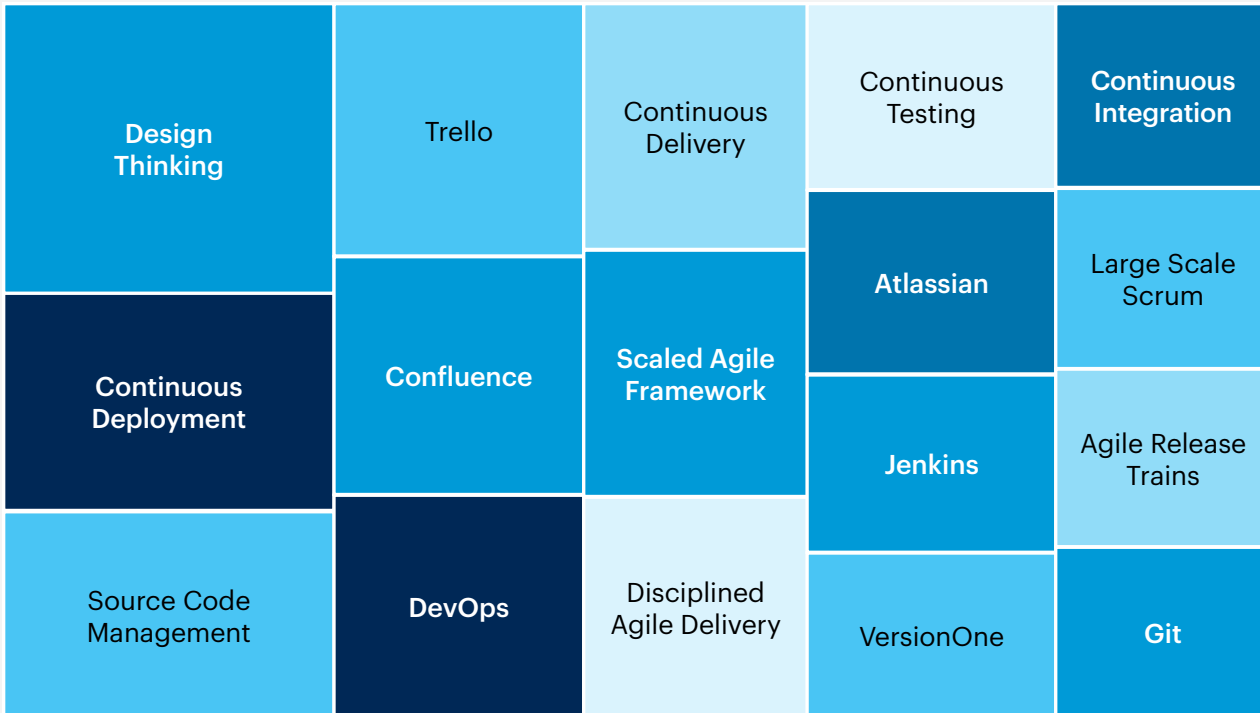
To illustrate, we analyzed job postings for the past three years for about 100 agile skills. We mapped the key skills in the market that have shown significant growth in demand and are in high demand today (see Figure 2).

To make this analysis even easier to understand, we further categorized agile skills into four broad categories (see Figure 3):

- Declining skills (low demand, low growth)
- Legacy skills (low demand, moderate growth)
- Prevalent skills (high demand, moderate growth)
- Emerging skills (low demand, high growth)

**Figure 2: Agile Skill Heatmap**

**Darker Shade =** Higher Job Demand  
**Larger Block Size =** Higher Job Growth

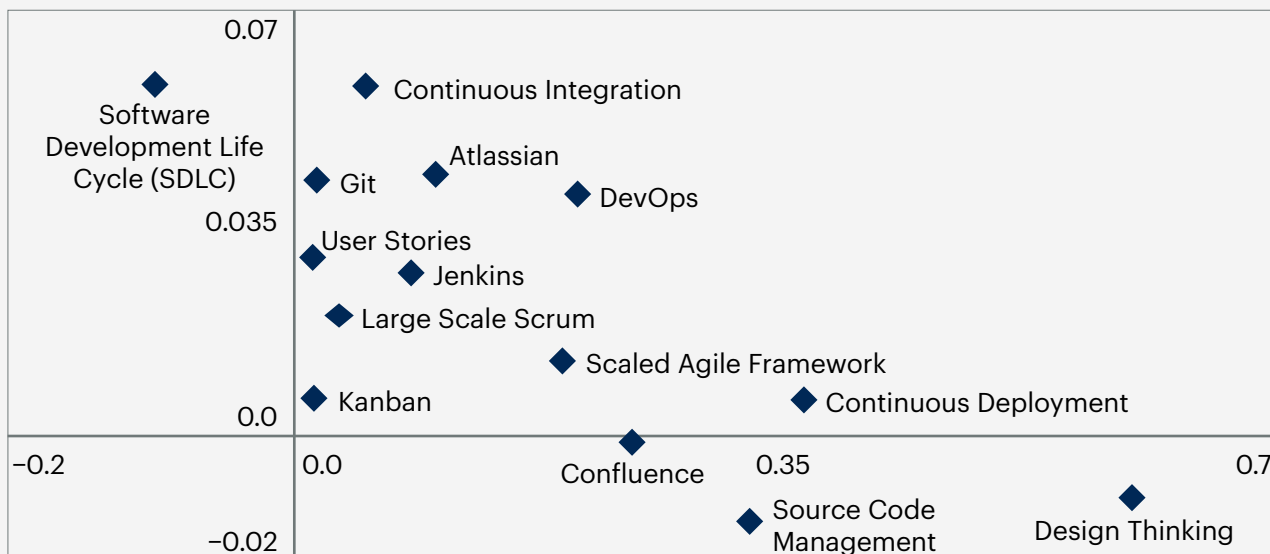


Source: Gartner TalentNeuron

**Figure 3: Agile Skill Categorization**

**Low Growth, Moderate Demand (Legacy Skills)**

**Moderate Growth, High Demand (Prevalent Skills)**



**Low Growth, Low Demand (Declining Skills)**

**High Growth, Low Demand (Upcoming Skills)**

Source: Gartner TalentNeuron

## Incorporating Insights Into a New Agile Talent Strategy

Talent analytics leaders armed with these insights can start a new-in-kind conversation with their HR and business leaders. By comparing this new understanding of future skill demand with current skill levels in the organization, talent analytics teams can proactively identify where skills gaps will exist and identify the critical talent they want to hire and develop per future business needs.

This model could prompt conversations on how to continue building a truly agile culture and develop workforce plans in support of that culture. Some of the key questions to start with are:

- What percentage of my current talent has the requisite agile skills? How relevant are these skills?
- Which are the key agile skills my organization needs to hire for to be truly called “agile”?
- What is the demand for emerging agile skills, and how can business and HR leaders plan for hiring such skills?

These conversations will propel the business to look forward and plan for emerging talent needs. Especially in today’s tight labor markets

and sudden attrition, these analytics help organizations plan better and ensure business objectives and future capabilities are built in advance.

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Redefining talent strategies takes on new urgency as artificial intelligence changes the complexity of the workforce. Get insights on how skills are changing and what measures you can take today to prepare your organization for the future.

<sup>1</sup> This article is based on Gartner TalentNeuron analysis. TalentNeuron is our online talent market intelligence portal with real-time labor market insights, including custom role analytics and executive-ready dashboards and presentations. For this article, our search engines crawled over thousands of job postings in the past three to four years to analyze and provide insights for future of agile skills. Predict the skills you will need tomorrow for better workforce planning. To learn more, contact [talentneuron@gartner.com](mailto:talentneuron@gartner.com).