How Workforce Reskilling Meets Business Strategy

By **Evan Rhodes**

Workforce skill development has historically been a reactive process. It is a means of accounting for the human capability required to achieve business strategy over a given period. Rarely does the work involved in assessing skill needs actually *inform* that strategy at the organizational level. Yet as data and analytics change the way HR functions add value to the business, that dynamic may be changing as well.

Workforce analytics are being used more (albeit not in a widespread way) to inform the direction of business strategy. Intuit, for example, uses engagement data as a predictive indicator to assess the feasibility of proposed business changes. Philips uses labor market analytics to evaluate digital business opportunities.

DXC Technology is taking the same approach to learning analytics. In so doing, it is radically changing the role of reskilling initiatives, not only within the context of its overall workforce strategy but also in the proactive value workforce strategies can now have on business strategy. DXC's unique approach to skill development represents a way forward for organizations looking to evaluate and quickly build learning to reskill their workforces as well as for organizations that struggle to inform the direction of business strategy through people analytics.

The Rise of Business Transformation, the Death of Needs Analysis

DXC, a $25 billion American multinational IT services company with clients in over 70 countries globally, was formed in 2017 from the merger of Computer Sciences Corporation and Electronic Data Systems. The merger joined two organizations with significant capabilities in IT and electronics hardware and professional services to transform them into a cloud-based IT solutions provider.

On top of the change resulting from the acquisition, DXC's HR function was tasked with rapidly bringing in new-to-world skills related to cloud-based solutions to ensure the merger's success. This required reexamining the way HR assessed organizational skill needs. The "ADDIE" (assess, design, deliver, implement and evaluate) approach DXC had historically relied on was not fast enough to build learning solutions that met business leaders' time frames.

While organizations have experimented with learning design processes for some time to improve on ADDIE's inherent limitations in speed (as well as resource allocation and design quality), DXC's HR leaders realized the biggest obstacle in their legacy process was the input it required to assess learning needs. They relied on conversations with business leaders, but in creating a workforce strategy for new-to-world skills, leaders did not know precisely what skills would need building — much less where and how much.

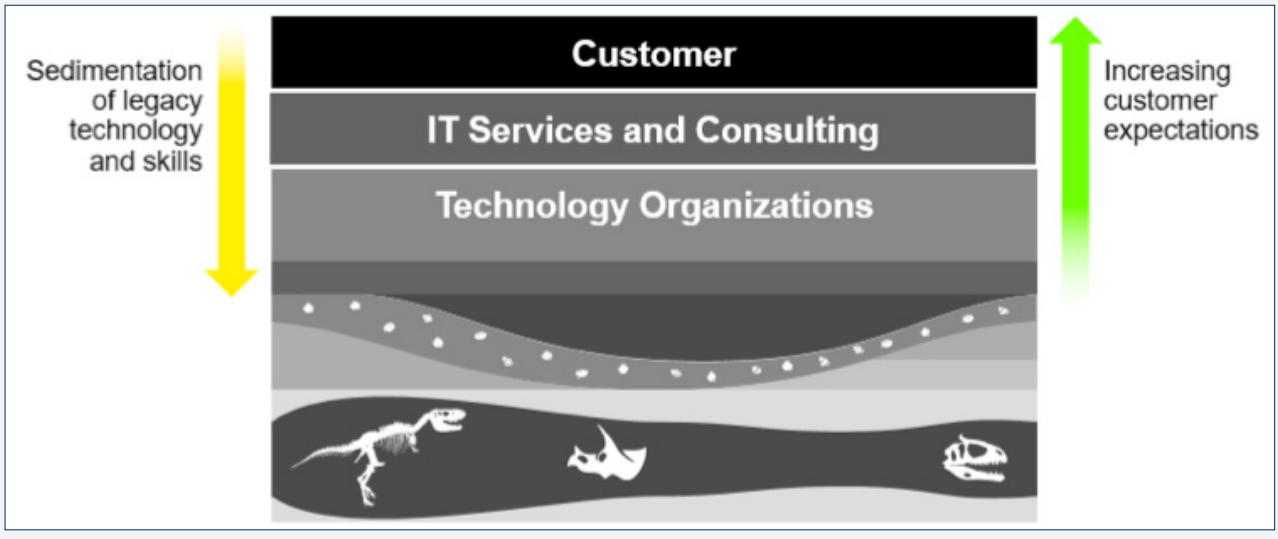
Most organizations today are in a similar circumstance: 69% of CHROs recently indicated the change in workforce skills will be the biggest driver for organizational growth over the next three years — second only to technology. Many leaders today struggle to provide input on skill evolution because they aren't as familiar with the skills necessary to support their broader business transformations (see Figure 1).

To fill the information gap, DXC devised a machine learning model that mines publicly available information about skills in the labor market and customer activity to predict how skill needs for DXC would evolve to support its business transformation. DXC's approach drew data from job boards, industry publications and customer websites to use several additional inputs beyond what most organizations use for C-suite conversations about workforce skill needs. The additional inputs include:

- Industry skill shifts
- Short-term fluctuations in skill demand
- Shifting customer demands
- Skills valued by competitors
- Geographic variation in the skills landscape
- Skills that transcend industry
- Emerging skills in the marketplace

DXC's use of machine learning effectively fills the skill information vacuum at the C-suite level left by digitalization and other forms of business model transformation. It also demonstrates how CHROs should continue to think about the evolution of their partnerships with other C-level executives and business leaders.

Figure 1: Shifting Skills Landscape
Illustrative



Source: DXC

CHROs are increasingly responsible for leading workforce strategy, rather than following other executives' lead, because large-scale business transformations require workforce skills to be articulated as business-unit-level strategies. This shift reconfigures the relationship between the head of HR and other functional leaders. That relationship is now based more on HR's ability to provide leading data and inform business decision making than on its ability to devise workforce strategies and services that facilitate execution of predefined business strategies.

Using Big Data for Workforce Skill Development

To predict emerging skills, DXC uses a supervised machine learning process with two high-level steps:

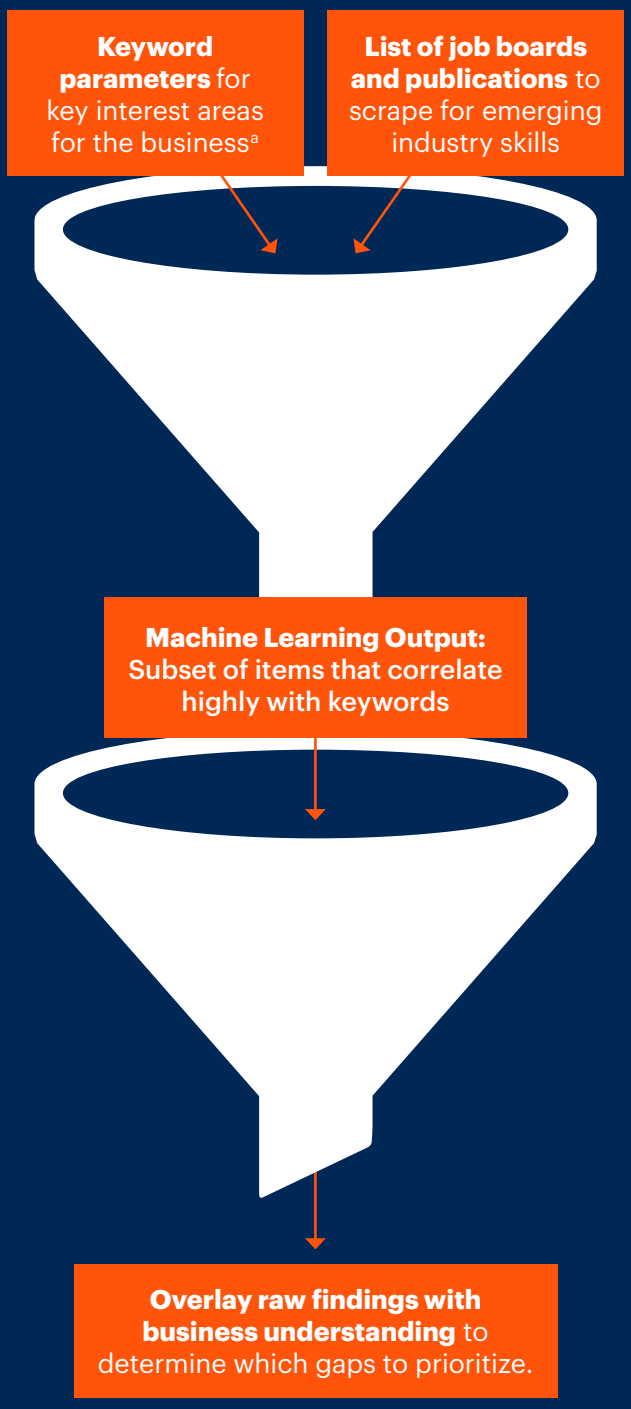
1. Data scientists load sample inputs and desired outputs — such as key skill words that align with jobs — into a computer.
2. The computer uses statistical analysis and probability theory to make predictions from the data without being explicitly programmed.

The initial output of this first filtration process is a subset of words that are highly correlated with the keywords DXC loads. The company pulls this data continuously and can thus gather new insights at the speed of the market.

By themselves, these highly correlated words don't necessarily help DXC prioritize emerging skill needs to address, so HR takes the process a step further. Rather than eliminating business perspective all together, HR conducts a second layer of filtration, using business judgment supplied by subject matter experts to prioritize skills identified through machine learning (see Figure 2).

DXC's primary goal in using machine learning is to generate a more predictive perspective of shifting skill needs; however, HR can capture more layers of insight from the rich predictive data. By conducting an extra layer of analysis, DXC identifies diverging competitor skills. This additional analysis sorts the data to find skills the business's current strategy might be inherently biased against. HR also scans for "skill

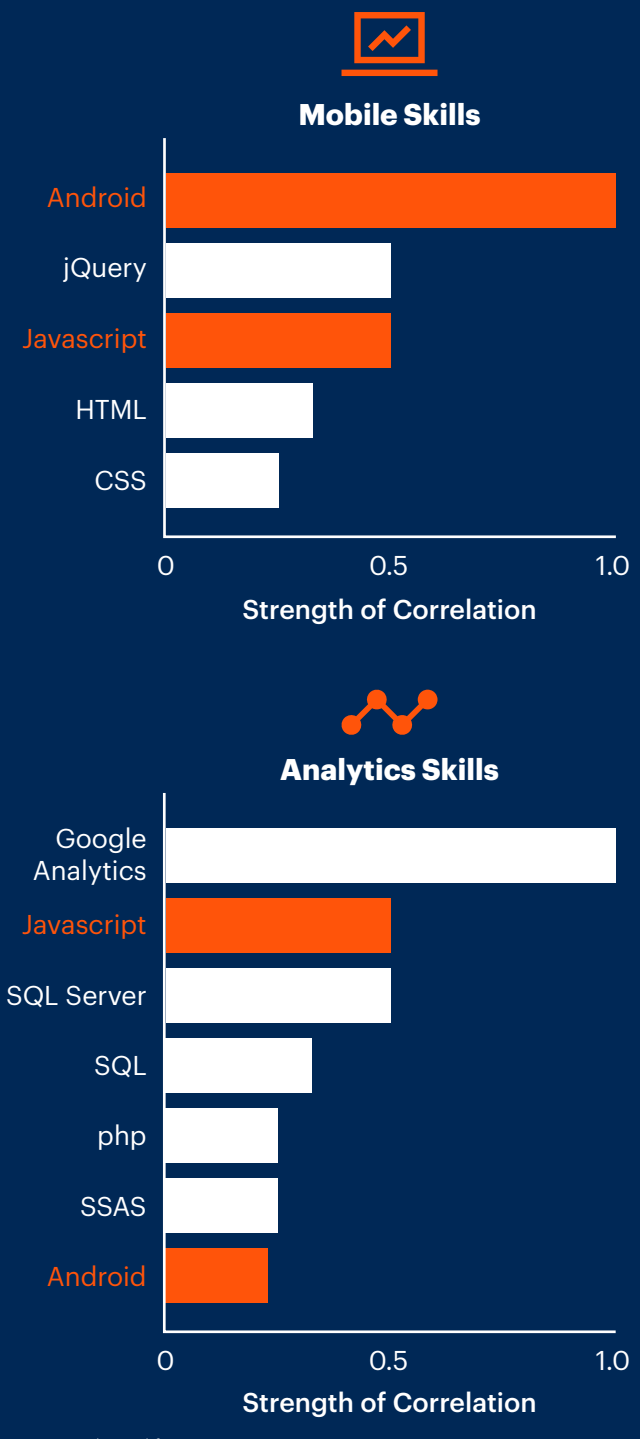
Figure 2: High-Level View of DXC's Machine Learning Process



Source: Adapted from DXC

[a] DXC looked for skills related to the following technology subdomains: big data and analytics, mobile, virtualization, security, DevOps, cloud, application modernization and Internet of Things.

Figure 3: Sample Skill Linkages



Source: Adapted from DXC

linkages" — skills that cut across multiple business units and are thus highly relevant (see Figure 3).

Turning Analysis Into Action

DXC's supervised machine learning process also enables an accelerated learning strategy on the back end of business and workforce planning; it enables HR to be agile in producing learning solutions. DXC uses its data to prioritize learning needs where a minimum viable product (MVP) is of more value than a fully developed learning solution.

In our last edition of CHRO Quarterly, we discussed how organizations can use MVPs to provide immediate value to employees and iterate based on their early reactions. While MVPs may not have the flashy features of traditional learning content, they contain the right learning content to help employees build needed skills quickly, and they embody the principles of agile development.

DXC's MVPs, called "learning guides," are PDFs filled with curated links to existing high-quality content. They stick to the core, functional features employees need to get to the right content quickly, and they are easy for L&D to iterate over time.

Recognizing that learning content is now a commodity, DXC has sourced an estimated 60% of the content in its learning guides from vendors with whom it has strong relationships. Based on the emerging skill needs it finds through its machine learning analysis, DXC can even influence vendors to create new technical skill development offerings.

See an example of how Dimension Data shares emerging skills across the organization in this quarter's Voice of the CHRO interview on Page 22.

In addition, DXC ensures subject matter experts within the business approve the content needed to develop each skill. By working with the business at this stage, HR can create quality content faster. Rather than waiting for the business to flag emerging learning needs, HR proactively shares newly discovered emerging skills with leaders and provides learning guides with preliminary content at the same time. This proactive sharing has built HR's reputation as the place to go for predictive skill analytics and ready-made solutions.

DXC also recognizes that employees must master not only skills that are relevant to the business

but also skills that are relevant to their jobs and careers. Through its FutureTense predictive modeling lab (see Figure 4), HR gives employees an interactive map of the shifting skills it has discovered in the market. Employees see what skills are emerging in the FutureTense tool and can find the corresponding learning guides to help them develop their careers.

Implications for the C-Suite and the Board

DXC's approach to evaluating skill needs is a model for how CHROs and their teams effectively add value in a rapidly changing work environment. Organizations increasingly place a premium on HR services that anticipate as much as drive business strategy. Yet anticipation is perhaps the most difficult dimension of workforce skill development. Within the context of strategic workforce planning, anticipation is almost prohibitively difficult.

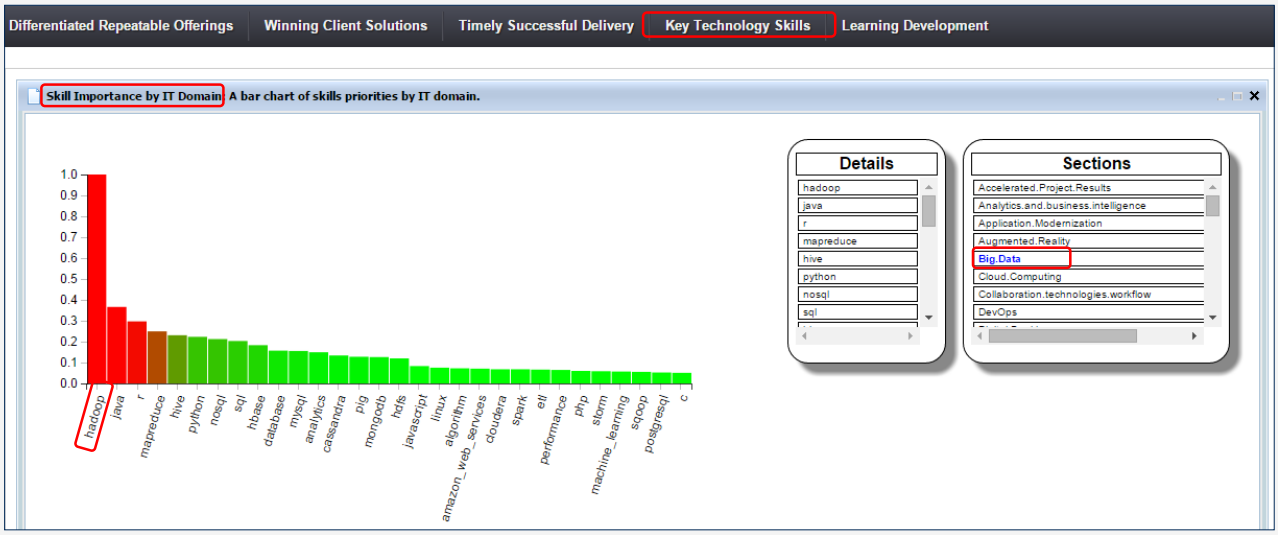
"What skills will my workforce need in the future?" Many HR executives can successfully answer this question in general terms: "As we move to the cloud, we need more developers and fewer programmers," or "As we move to a solutions business, we will need more consulting skills." But more concrete formulations remain elusive.

The reasons for this vary. Organizations continually struggle to anticipate the true capability needs of the business beyond the short term. More recently, the increasing threat of disruption caused by digitalization has tethered organizational transformation to workforce capabilities that are at best scarce in the marketplace and at worst too new to be deployed at scale or simply not yet in existence.

Workforce development bears a special burden in this ever-faster-moving knowledge economy: For a skill to be taught, it has to first be understood, codified, packaged and exported from one human to another. And often skills with that kind of value are being used, not packaged for scalable development. Development, in other words, will always lag slightly behind acquisition as a method of building workforce capability because of that extra step.

For that reason, it is especially hard for organizations to put development at the forefront of a forward-looking workforce strategy. But DXC has done it — and in a way other HR functions can learn from, adapt and make their own.

Figure 4: Skills Heat Map
FutureTense Predictive Modeling Lab



Source: DXC