



EXECUTIVE SUMMARY

Key Stakeholders: Chief Learning Officers, Chief Human Resource Officers, Chief People Officer, Chief Talent Officer, Learning & Development Directors and Managers, Corporate Trainers, Content and Learning Product Managers, Hiring Directors, Hiring Managers, Human Resource Directors, Human Resource Managers.

Why It Matters: Organizations face the double burden of losing a disproportionate percentage of highly experienced employees to retirement while facing the challenge of filling new jobs over the next 5-10 years that have never even been imagined in the past. To adequately fill these new jobs, human resources and talent managers must become more creative in finding and developing skillsets to ensure that their organizations can keep up with the overwhelming pace of change and transformation.

Top Takeaway: IBM and Skillsoft have brought together a unique combination of artificial intelligence, career guidance, skill taxonomies and ontologies, chatbots, career coaching, and educational content to help employees improve their skillsets and prepare them for both managerial and advanced technical roles. Amalgam Insights recommends that organizations work with IBM and Skillsoft to conduct due diligence on this offering in context of organizational forecasts and demands for new personnel and skills.



IBM AND SKILLSOFT INTRODUCE AI FOR CAREER DEVELOPMENT

On February 12, 2019, IBM Watson Talent and Skillsoft announced a joint offering to support what they are calling "skills-based, AI-powered learning and career development." This offering is focused on employee career development with the goal of supporting agile skill development, internal promotion, and job mobility for employees seeking to pursue dynamic career paths. From a tactical perspective, this offering consists of a combination of products: IBM Watson Career Coach, IBM Watson Talent Frameworks, IBM Talent Assessments, Skillsoft content, and Percipio learning experience platform.

This offering was showcased at Skillsoft Perspectives 2019 with a focus on demonstrating how Skillsoft's portfolio of learning content will be integrated with IBM Watson Talent's ontologies and taxonomies of skills and capabilities. This combined offering allows employees to identify and evaluate their current skills in context of the jobs they are targeting in the future, provides guidance on the additional technical and personal skills needed for adjacent or managerial roles that the employee may not have even considered, then suggests the Skillsoft-based classes and information that employees should learn to prepare for those roles.

Because these skills and recommendations are provided on a gender, race, and age-neutral basis, one of the intentions is to provide employees with an unbiased and skills-based perspective for pursuing career progression and to take full advantage of past experiences.

WHY TALENT AND TRAINING NEED TO BE INTEGRATED AND INFUSED WITH AI

Industry estimates, including Amalgam Insights', provide guidance that a majority of jobs that will exist in 2030 have not been invented yet. With the emergence of machine learning at scale, algorithmic enhancement, data-augmented insights, robotic automation, process automation, natural language processing, the Internet of Things, and other digital transformation technologies, we are quickly moving into a world where mundane and manual work are quickly becoming obsolete and will be replaced by the need to oversee and architect tasks, processes, and projects.

However, this proliferation of new jobs does not necessarily mean that there will also be an equal proliferation of skills. Although people will always need to learn novel and emerging skills as they are created, the vast majority of skills for the jobs of the future are skills that already exist. Even when new skills must be learned, they must be learned by the same brain, and the multiple learning systems in the brain that have been identified. Thus, the optimal methods for training new skills will be very similar to the optimal methods for training existing skills. For instance, the concept of machine learning and the related statistical, algorithmic, and "neural" skills needed to understand machine learning are decades old. It is only the emergence of cloud computing at massive scale, access to data, relative ease of programming, access to code libraries, and deployment of code that have made machine learning more usable over the past few years.

Similarly, the jobs of the future will likely require new combinations of skills, most of which have likely been learned and refined over the past few decades. However, there will be a few new skills (that may be technical, factual, personal, or managerial in nature) that people will need to learn to do these new jobs. For instance, the artificial



intelligence experts of the 90s and 2000s have likely had to learn Python to complete their portfolio of skills as a data scientist. Although a new skill, learning Python requires engagement of the same learning systems in the brain that were required to learn Fortran or Pascal. However, the challenge of conducting this type of personal gap analysis of skills across every new and emerging job, finding resources to learn new skills, and accurately articulating these skills by name to the competitive job market are top challenges that are ongoing.

Those trying to establish and conduct dynamic careers must face the challenges of switching geographies, industries, departments, roles, and management responsibilities over time to pursue these new jobs. These employees need to both show their current alignment and viability to succeed in new and emerging jobs while quickly learning additional skills that are needed to optimally succeed. And these candidates probably need to learn these skills while working a full-time job, as the financial burden of leaving work to pursue formal classwork on a part-time or full-time basis can be prohibitive for early-stage employees.

AMALGAM INSIGHTS' ANALYSIS

For IBM, this offering provides an important monetization channel for IBM Watson Talent. Amalgam Insights expects that this offering will be both an important direct offering for enterprises seeking to maximize talent and an enabler for IBM Services in providing strategic consulting.

Prior to this announcement, IBM Watson Talent provided a variety of prescriptive products to support insights and on-demand knowledge regarding talent acquisition including IBM Kenexa Talent Acquisition Suite, IBM Watson Candidate Assistant, IBM Watson Recruitment, and IBM Watson Talent Match. IBM also provided tools for talent assessment and development including IBM Watson Talent Frameworks, IBM Watson Career Coach, and IBM Talent Assessments This set of products served as a strong foundation for recruiting and evaluating talent, but lacked the ability to follow up with the necessary training and knowledge needed for employees seeking promotion or lateral movement, high-potential talent, and departments seeking to upgrade or buttress their current skill sets. Skillsoft closes this gap by providing a robust and varied portfolio of content including hard skills, people skills, leadership and management skills that employees may need to complete their journey from their current role to their desired role.

A big part of Skillsoft's success on the content side, has been their embrace of scenario-based storytelling. From a neuroscience of learning perspective, scenario-based storytelling engages not only cognitive learning centers in the brain that process information, but also engages emotional learning centers in the brain that enhance learning and retention by drawing the learner into the story. In addition, to having strong content, Skillsoft is a leader in content delivery. Strong content and delivery, are key to effective learning. Skillsoft's "watch", "read", "listen", and "practice" offerings on their Percipio platform provide 24/7 access to learning content across multiple modalities. Skillsoft also offers both microlearning, when the learner has a specific problem that needs to be addressed quickly and in the flow of work, and macrolearning, when a deeper dive is needed for understanding.

For Skillsoft, this offering is in line with the progression that Skillsoft has made across training, talent, and delivery. The initial work that Skillsoft has put into Aspire learning journeys to support career development, such as their recent announcement on the data science learning journey, will be jumpstarted with the addition of IBM Watson Talent



Frameworks. In addition, Skillsoft's content is opened up to another large embedded audience with an offering that will add important metadata context to Skillsoft's materials. By better understanding the context, suggestions, and sequencing of its content, Skillsoft will be better positioned to provide more customized packages of educational material to professional audiences, all while maintaining their commitment to high-quality content and delivery.

From Amalgam Insights' perspective, the initial value of this offering is obvious in its ability to evaluate current and potential applicants, provide guidance on the key hard skills, managerial skills, and people skills needed to fill high-demand positions, and to unite a strong learning platform with talent acquisition and development capabilities in a way that strengthens organizational capacity to internally nurture talent, fill positions, and plan for succession over time.

RECOMMENDATIONS FOR ENTERPRISES, IBM, AND SKILLSOFT

With this context in mind, Amalgam Insights provides the following recommendations for organizations seeking to improve the quality of their talent and for IBM and Skillsoft as they bring this offering to market.

Enterprises that have had challenges in filling managerial or high-demand operational jobs should consider this joint IBM/Skillsoft offering to nurture their existing talent. The war for highly skilled talent is the most strategic challenge that businesses face as they plan for the future, yet the vast majority of companies have no structured process for identifying and preparing their internal workforce to support this demand for talent. This lack of preparation ignores two key business concepts.

First, it can take 12 months or more to fully onboard highly skilled personnel. A number of studies have shown there are real and significant challenges above and beyond pure technical and operational responsibilities such as learning how to do business within a company, fully take advantage of corporate resources, and effectively work within a departmental, project, or managerial context.

Second, it is often cheaper to uptrain an existing employee on a few skills rather than recruit a new employee who may have all the technical and academic skills needed for a job. Rather than spend 2-3 months and \$10,000 or more to recruit a highly specialized talent, a company may be able to internally promote or reassign a highly skilled employee more cheaply and quickly while opening up a lower level position that is easier to fill.

IBM and Skillsoft should work on making this offering more widely available, either by setting it up as a Software-as-a-Service (SaaS) offering made available to individuals or as an embeddable offering that is licensable by a variety of other talent management, talent acquisition, and learning experience solutions. We believe that there is a big opportunity to make this offering ubiquitous either by offering it as a standalone capability or by embedding this offering within every large talent acquisition, job board, and employee learning platform.

Because of the unique nature of this skill-based, AI-driven offering combined with a market-leading content portfolio, Amalgam Insights takes the stance that this offering would be difficult and cost-prohibitive to create rather than license. Rather than simply offering this combination of talent management and learning management for hundreds of



enterprises that hire a few million people, this could be an offering that fundamentally reshapes employees' opportunities to reinvent themselves.

And with Watson Talent's ability to continuously improve skills taxonomies and ontologies as well as the relative ease of translating these skills into a variety of commonly spoken languages in 2019, this offering could quickly become potentially available to hundreds of millions of workers. It is a necessary capability as the duration of careers shortens from decades to a handful of years, the pace of technology and automation-driven change only continues to increase, and the need to perfect a single skill in the enterprise is increasingly less important than the ability to aggregate and deploy a variety of interrelated skills.

CONCLUSION

The pace of digital transformation and the resulting dynamic future of work compel organizations to find new solutions to hire, develop, and nurture employees. Companies must deal with the double whammy of seeing the majority of their most skilled employees retire over the next decade and finding that the majority of new jobs created are unique to the needs of a more automated, AI-driven, analytic, code-based, collaborative, robotic, and technologically augmented world. In light of this fundamental transformation of corporate and organizational workforces, the need to develop and upgrade employee skills has evolved from an interesting concept to a strategic imperative for companies seeking to maintain advantages over their competitors. In this light, Amalgam Insights recommends that fast-growing organizations and enterprises with challenges in finding highly-skilled talent consider this IBM/Skillsoft solution for career development as a starting point for supporting and fortifying existing employee skills

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ABOUT AMALGAM INSIGHTS

AMALGAM INSIGHTS

Is a leading research and advisory firm focused on the enterprise need to perpetually reimagine the path for increasing tech-driven value. Tactically, AI focuses on the following practices to increase the value of technology: Technology Expense and IT Subscription Management, Future of Finance, DevOps and Open Source Development, Talent Assessment and Learning Management, Extended Reality, and Data Science and Machine Learning.

HYOUN PARK, PRINCIPAL ANALYST AND CEO

Hyoun is the Founder and CEO of Amalgam Insights. He focuses on Technology Expense Management, data management, and model management challenges based on 20+ years of vendor, enterprise IT, and industry analyst experience. Prior to Amalgam Insights, Hyoun:

- ◆ Led IT analyst practices at the Aberdeen Group and Blue Hill Research with over 300 research documents across analytics, mobility, finance, and collaboration.
- ◆ Managed multi-million dollar technology budgets at Bose and Teradyne.
- ◆ Managed billing data operations for two resale telecom CLECs.
- ◆ Built prediction models for the first Fantasy Baseball website, mosey.com



TODD MADDOX, PH.D., LEARNING SCIENTIST/RESEARCH FELLOW

Todd is a Learning Scientist/Research Fellow at Amalgam Insights. He focuses on Talent Management and Learning & Development, and the challenge of leveraging talent and learning science—the marriage of psychology and brain science—to provide customers with optimized talent management and learning and development solutions. Prior to Amalgam Insights, Todd:

- ◆ Established himself as a leader in human learning, memory, and performance in a 25-year career as an academic and researcher.
- ◆ Was awarded over \$10 million in federal research funds for his own human learning and performance laboratory.
- ◆ Published over 200 peer-reviewed research reports and cited over 10,000 times by fellow researchers..



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