

FROM DIGITAL TWINS TO DIGITAL EMPLOYEES: REDEFINING HUMAN-CENTERED LEARNING IN ORGANIZATIONS

Dina Aslamazishvili

PhD in Social Philosophy, Professor,
Scientific Group Member, Business School,
Georgian American University,
0160, Georgia, Tbilisi, Aleksidze Street 10

Abstract

AI and GenAI change the game in Learning and Development systems design and management. Digital employees put the concept of digital twins on a new page in organizations. Digital employees can take on some routine tasks, if properly taught, and can learn some perishable skills, that need permanent renewal, like technical skills (need update and upskilling), policies, procurement, customer support, data gathering, and others. This shift opens more opportunities for real-life employees to focus on their durable skills of the long-term value, like leadership, critical thinking, emotional intelligence, self-awareness, resilience, drive, curiosity, and social skills.

Digital employees change the whole concept of organizational learning and will be a critical part of designing human-centered learning and development systems in business organizations.

Key words: learning and development, digital twins, human digital twins, digital employees, human-centered learning, organizational learning, AI, GenAI.

Introduction

Management is traditionally about cost efficiency, improved performance, and talent development. All those indivisible elements are based on the idea that people should learn from the experience, and organizations should learn as well from the interactions with external and internal sources. Learning and Development changed critically in the last decade, especially with the streaming AI development and active integration into HRM functions.

In general, AI helps a lot in saving time and enhancing access to large amounts of information. On the background of the new demands and reality, companies are transitioning to a different model of learning and development. Work roles are less significant for the overall performance, it is skills and competencies that matter really. That explains reskilling and upskilling trends and skills-driven learning and development models in organizational

contexts. Especially it concerns corporate scalability. Some experts and statistical reports promise that all professionals will have a Generative AI assistant in about 5 years.

Background and Context: Digital Twins, Human Digital Twins, and Digital Employees

In the beginning, digital twins appeared as technology in NASA missions, during 1960s, they served for modeling Apollo missions. The main exploitation was for space programming. Digital twins were duplicated systems to match the systems in space, very close to the idea of VR within nowadays training methods. In 2002 digital twins already have taken a large number of simulations of the assets' performance with the help of mathematical algorithms.

Later with the rapid development of AI integration into the existing human functions (for example, digital avatars, of NLP – natural language processing), digital twin concept expanded into the human digital twin. Basically, it is when you “teach” AI to replicate human behavior or some functions. For example, answering queries from customers, responding to routine emails, writing texts following the prompt, creating images, editing the design of your presentations, and others.

And finally, we are witnessing the emergence of a conceptually different approach, the shift in the mental model towards the use of digital employees. Josh Bersin describes “Digital employee” as a software-powered agent that can talk with us, answer detailed questions, solve complex analytic problems, and navigate a multitude of systems¹. Human digital twin initially working like an AI assistant, already has the potential to take some tasks of a real life worker, when s/he is on vacation. Digital employees are designed as virtual personas or assistants to do concrete tasks, including basic interaction with people and simulating some aspects of work roles in organizations. What digital employees can do so far? Examples vary from handling customer service inquiries, providing virtual assistance, support training, and even working alongside human teams in various workflows. The examples of some actively integrated digital employees you may find in the following Figures 1 – 3.

¹ Bersin, J. (2024, October). *Digital twins, digital employees, and agents everywhere*. Retrieved from Josh Bersin. <https://joshbersin.com/2024/10/digital-twins-digital-employees-and-agents-everywhere/>

Figure 1

Customer Service Chatbots	HR Digital Assistants	Sales and Marketing Digital Assistants
• Amelia • understands natural language, can interpret emotions, and adapts responses based on context, making her interactions feel more conversational and human • https://amelia.ai/	• watsonx Assistant by IBM • answers questions of employees on HR policies and aspects • Customer service • Marketing • https://www.ibm.com/product/s/watsonx-assistant	• Conversica • navigates the complex, multi-turn sales conversations necessary to move buyers through the funnel • Revenue digital assistants • for marketing teams • for sales teams • for customer success teams • https://www.conversica.com/

Figure 2

Digital Trainers and Learning Facilitators	Healthcare Digital Assistants	Digital Financial Advisorists
• NovoAI • AI-powered chatbots and virtual assistants to facilitate learning. It personalizes course recommendations based on learner profiles and provides automated assessments to evaluate progress • https://novoed.com/	• Molly by Sensely • answers questions of employees on HR policies and aspects • https://sensely.com/	• Erica • often used to support customers with day-to-day banking needs • https://promotions.bankofamerica.com/digitalbanking/mobilebanking/erica

Figure 3



Characters can help bridge the gap between hi-touch human interactions and lower-fidelity bots, and serve as a differentiated persona for your brand.

Wie geht's?

How are you?

¿Cómo estás?

你好吗

كيف حالك؟

Comment allez-vous ?

お元気ですか

Come stai?

Source: <https://sensely.com/>

The Increasing Role of Technologies in Organizational Learning and Human-Centered Development

Some can say that it is frightening. More and more the papers and abstracts highlight critical for employees and managers questions like “Will AI substitute my work role?”, “Will I lose my job because of AI?” Thomson Reuters Report 2024 shares high interest and concern for AI integration in learning and development processes in organizations. Many employees in different industries state that the rise of AI and GenAI will change their work in 5 years².

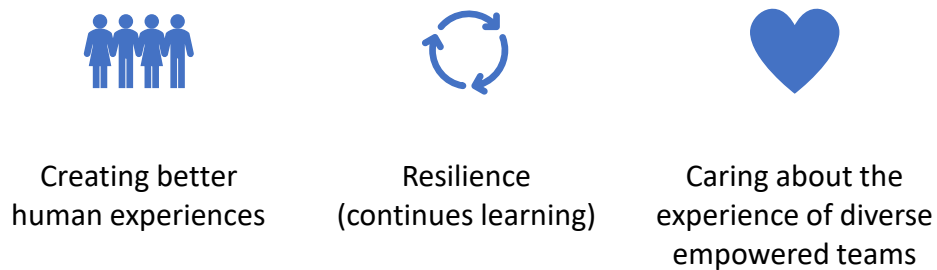
The whole system of organizational learning and development is already changing. L&D specialists find out that they need to include Digital Employees in their learning programs and train them to integrate effectively in regulating organizational processes. Organizational learning as a process of organizational development and knowledge transfer has no other way but to adapt to a changing environment, and today it means adapting to AI-assisted human processes.

More critically emerges the role of human-centered development, which centralizes all the goals, processes, and decisions around people. Systems and products are designed not for the final results, but for the well-being of critical stakeholders: customers, employees, and community. For example, IBM states that “the human-centered organization is one that exists to fulfill a purpose for its users, customers, and community, and orients all of its innovation and operations activities around those people.”³ (see Figure 4).

² Thomson Reuters. (2024). *Future of professionals*. Retrieved from <https://www.thomsonreuters.com/en/c/future-of-professionals.htm>

³ IBM. (2024). *Building a human-centered organization*. Retrieved from <https://www.ibm.com/design/thinking/page/hco>

Figure 4



How Digital Twins and Digital Employees Contribute to Redefining Human-Centered Learning in Organizations

Digital employees definitely expand access to large amounts of information, can process many inquiries, and use a lot of sources at the same time. These functions and possibilities help to develop alternative paths for learning and development in the organization. For example, to make the learning process maximum personalized, offering employees correct learning paths depending on their level of skills development, and even more – following the needs for new competencies and skills important for the work role or career development.

Trainers can test their programs with bots (digital employees), which saves a lot of time, and is more effective, as instructional designers can adjust the program design without testing on the real-life employees (which meant to take their time or to risk in delivering the training and then making changes based on the evaluation metrics, but let us say this concrete event already is of the lower quality than it could have been. Digital employees save that time and help to enhance the quality of the training programs.

Moreover, digital employees can be onboarding companions and team collaboration facilitators. They even can have real human faces, as digital avatars for example. Very rapidly developing AI technology. Digital employees as knowledge management assistants serve employees with quick access to knowledge hubs in organizations and share documents, policies, guides, or any materials needed. Machine learning assists in analyzing frequent questions and sharing resources.

All these examples lead to the idea, that digital employees are not our enemies or competitors, they are more assistants to enhance the well-being and comfort of employees in their work tasks. They can apply this space of time and less routine tasks to creativity, finding new solutions, and developing their competencies.

Each digital employee needs to be trained, which in its turn as well changes the game in design learning and development systems in organizations. As Bersin recommends, we need to ask this question, which changes the whole mindset concerning AI, GenAI, and digital employees: “How much can I delegate to my new AI friends as fast as possible?”⁴

References:

1. Bersin, J. (2024, October). *Digital twins, digital employees, and agents everywhere*. Retrieved from Josh Bersin. <https://joshbersin.com/2024/10/digital-twins-digital-employees-and-agents-everywhere/>
2. Sensely. (2024). *Virtual nurse platform*. Retrieved November 19, 2024, from <https://sensely.com/>
3. Thomson Reuters. (2024). *Future of professionals*. Retrieved from <https://www.thomsonreuters.com/en/c/future-of-professionals.htm>
4. IBM. (2024). *Building a human-centered organization*. Retrieved from <https://www.ibm.com/design/thinking/page/hco>

⁴ Bersin, J. (2024, October). *Digital twins, digital employees, and agents everywhere*. Retrieved from Josh Bersin. <https://joshbersin.com/2024/10/digital-twins-digital-employees-and-agents-everywhere/>