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GenAI Role in Redefining Learning and Skilling in Companies

Ileana Hamburg

1. IAT, Westfälische Hochschule Gelsenkirchen, Germany

Abstract: Gen AI models are growing rapidly, changing job roles, and revolutionizing entire industries. Due to advances in technologies, particularly generative AI (GenAI), which also transform industrial processes, companies need to adopt a human-centric approach to corresponding implementation that empowers employees and supports clients. This should be done, i.e., through upskilling, reskilling, cross-skilling, and learning initiatives. GenAI and the future of work and education are strongly connected. GenAI supports learning and development by performing various tasks that influence creation and interaction with content. One problem within companies is the assessment and development of employees' skills, as traditional methods often fail to provide timely and accurate feedback. GenAI supports skill assessment tools for continuous, granular evaluations of employees' abilities. Through continuous learning, including lifelong learning, and fostering a culture of innovation, businesses can use the full potential of GenAI, ensuring growth, efficiency, and that employees are equipped with the technical skills needed to succeed in an AI-enhanced world. By adopting a suitable approach to skill development and fostering a commitment to continuous learning within organizations, GenAI drives innovation, enhances decision-making, and creates new growth opportunities. In this paper, we first outline some useful steps to realize the value of GenAI transformation and facilitate GenAI adoption in companies. Then, it is briefly explained how GenAI supports employees' development, offering a transformative approach to addressing challenges through learning, unlearning, and relearning, thereby maximizing the opportunities inherent in lifelong learning. Besides lifelong learning, the workforce should be prepared for these changes through skilling programs. In this context, different forms of skilling, like upskilling, reskilling, and cross-skilling, are presented. The results of this paper are based on a literature recherche, an analysis of individual tasks across different occupations, also done within Erasmus+ projects, and discussions with trainers/educators. In conclusion, with a suitable approach to skill development and a commitment to continuous learning within organizations, GenAI drives innovation, enhances decision-making, and creates new opportunities.

Keywords: Generative AI (GenAI); Upskilling, Reskilling, Cross-skilling, Lifelong learning.

INTRODUCTION

Generative AI (GenAI) models are growing rapidly, changing job roles, and revolutionizing entire industries. Due to such advances in technologies, which also transform industrial processes, companies need to adopt a human-centric approach to their implementation that empowers their employees and supports their clients [1].

This should be done, i.e., through upskilling, reskilling, cross-skilling, and learning initiatives [2]. GenAI differs from past disruptive technology transformations, and its rapidly evolving nature requires continuous skilling. Motivational factors should also support the adoption of this new technology, and leadership plays a critical role in overcoming employee resistance and driving AI use within their organizations. A motivating and safe environment

that fosters exploration, experimentation, and lifelong learning cultivates a culture of innovation and continuous learning. This enhances human capabilities rather than replacing them [3].

One problem within companies is skill assessment and development of employees because traditional methods often fail to provide real-time feedback. GenAI supports skill assessment tools for continuous, granular evaluations of an employee's abilities.

In this paper, we first outline some useful steps to realize the value of GenAI transformation and facilitate GenAI adoption. It is shortly explained how GenAI supports employees' development, learning, and offering a transformative approach to addressing challenges as learning, unlearning, and relearning, maximizing the opportunities inherent in lifelong learning.

The need for the workforce to be prepared for these changes through reskilling and upskilling programs, and how this will be realised, is also presented.

WHAT IS GENAI

Generative AI (GenAI) models use machine learning to create new content, ideas, or outputs based on patterns and data inputs. These are not based on structured algorithms and predefined rules, and generate human-like text, images, and even video content using vast data sets.

GenAI and the future of work and education are strongly connected, and the adoption of GenAI is increasing within organisations. Seventy-eight % of higher education institutions have integrated GenAI technologies or plan to do so to improve teaching and learning outcomes [4].

GenAI supports learning and development by performing various tasks that influence, creating and interacting with content [5].

To realize the value of GenAI transformation and help GenAI adoption, some steps are useful:

- Discussing GenAI factors to be considered, like access, personalized content, sources, appropriate design, and a data-driven model to assess productivity, performance, and support innovation.
- Developing orientation frameworks that combine changes and learning to deliver suitable knowledge and provide skills and experiences.
- Implementing a dynamic learning model including lifelong learning and integrating it into the flow of GenAI use, providing what employees need.

GENAI SUPPORTS EMPLOYEES' DEVELOPMENT, LEARNING, AND SKILL ASSESSMENT

As GenAI becomes more ubiquitous in companies, the deeper its integration into workflows, the more indispensable human skills become. Particularly soft skills—such as problem framing, collaboration, and creativity — help people make the most of their work with GenAI ([6], [7]).

GenAI

- supports the development of innovative solutions to complex problems by analysing patterns and identifying connections in data, of new ways to present information based on learner preferences.
- helps develop human-like text, customized learning materials, summaries, or even conversation simulations for training purposes, making content more engaging and dynamic.
- facilitates translation of content into different languages, important for international organizations or those with a diverse workforce.
- can take large amounts of information and generate summaries, making learning easier and helpful.
- can propose new ideas, solutions, or content structures based on learned information. So new learning paths, course materials, or additional topics could be created. It can work with unstructured data and generate new data samples.

GenAI tools enable tasks that support the creation and interaction with content, such as

- Text: articles, quizzes, training modules, and personalized feedback tailored to the learner's needs,
- Images and Visuals, Audio Data Augmentation, taking existing data and creating new versions, additional examples, scenarios, or variations to enrich learning content. This helps provide diverse learning experiences without manually creating new content every time.

One problem within companies is skill assessment and development of employees because traditional methods often fail to provide real-time feedback.

GenAI supports skill assessment tools for continuous, granular evaluations of an employee's abilities.

GenAI [8]

- enables real-time evaluations, so employees receive immediate feedback on their performance. So, they can correct mistakes and adjust their approach, ensuring faster skill acquisition.
- helps to assess both hard and soft skills, including technical proficiency, problem-solving, critical thinking, communication, and emotional intelligence. So, a complete picture of employee capabilities could be created.
- offers continuous assessment adaptation, encourages employees ' growth, and helps them to develop competencies progressively.
- makes it possible that teams and managers receive detailed analytics, allowing them to identify trends, gaps, and areas for improvement across the workforce leads to more informed decision-making around training needs and talent development strategies.

THE REVOLUTIONARY ROLE OF GENAI IN LIFELONG LEARNING: INSIGHTS AND INNOVATIONS

GenAI could offer a transformative approach to addressing challenges as learning, unlearning, and relearning, maximizing the opportunities inherent in lifelong learning [8].

Silver et al. ([9]) examined the challenges and benefits of machine lifelong learning, and this is a foundational work for understanding of how GenAI can serve as both a facilitator and a catalyst for lifelong learning.

Some implications of GenAI in lifelong learning are:

- Supporting the development of personalized learning experiences, adapting content and preferences, and enhancing engagement improves retention rates and accelerates learning outcomes.
- Ensuring learners to retain and build upon previous knowledge, critical in lifelong learning, where continuous knowledge acquisition is vital.
- Providing high-quality learning experiences regardless of geographical location or economic status.
- Updating curricula dynamically and adapting it to meet emerging trends, industry demands, and learners' interests; educational content remains aligned with the job market's needs, thereby enhancing graduates' employability. Educators are facilitators of learning, mentors, and curators of AI-generated content.
- Enabling continuous professional development in the workforce, allowing individuals to quickly adapt to new technologies, processes, and industry standards.
- Providing real-time, personalized feedback and assessments, making the evaluation process more accurate and meaningful.
- Offering deep insights into learning patterns, the effectiveness of teaching methodologies, and overall educational outcomes.

UPSKILLING, RESKILLING, AND CROSS-SKILLING THE WORKFORCE

GenAI is changing job roles, revolutionizing entire industries ([10]). Driven by improvements in technology and human interactions, Gen AI models are growing rapidly. It is expected that by 2028, 86% of employers will expect AI to be a driver in their organizations, and 80% of employees plan to use GenAI tools ([11]).

Besides lifelong learning, the workforce should be prepared for these changes through skilling programs.

In this context, different forms of skilling are necessary like upskilling, reskilling, and cross-skilling. They are different depending on the primary objective for the training strategy. Upskilling programs are very important because employees should learn to manage and work with Gen AI tools. Because everybody should learn about these emerging technologies, everybody needs to upskill ([12]).

Upskilling is the strengthening of existing skills, so that the employee can fulfil their tasks, or even progress in their profession. It helps employees to remain competitive in the market – especially when techniques, processes, and tools evolve very quickly.

Upskilling should be included in a continuous learning strategy—helping teams to be, productive and equipped to meet evolving demands.

Reskilling means developing new skills necessary within current or future jobs and supports career changes, taking, i.e., leadership roles that require new interpersonal and strategic skills, and working in entirely new fields. Reskilling ensures employees are prepared to take new roles, whether during onboarding or an internal career move.

Cross-skilling refers to acquiring new, transferable skills that aren't essential for a regular role but are beneficial for working in other departments or with different teams. This is useful for equipping employees with skill sets beyond their usual roles and responsibilities. Cross-skilling training programs also encourage better teamwork and greater adaptability to various tasks, helping employees collaborate more effectively with other departments.

A training strategy that combines upskilling, reskilling, and cross-skilling to anticipate and respond to technical, business, and employees' needs is necessary.

Specific objectives guiding the development could be ([12])

- Taking into consideration market developments,
- Improving employee performance,
- Minimizing recruitment costs,
- Developing an agile organization,
- Supporting staff loyalty,
- Improving employer brand.

Then, learning methods that best support skill development, tailored to this strategy, organisation goals, employees' needs, engagement, and should be applied should be discussed.

CONCLUSIONS: THE FUTURE OF WORK WITH GEN AI

GenAI is a powerful tool that supports employees' innovative work, further improving its quality, and enables them to create value while enhancing their roles. By using GenAI to automate repetitive and time-consuming tasks to generate creative content, employees can concentrate to more strategic and high-impact activities ([13])

Professional growth and job satisfaction, besides increasing productivity and expanding own capabilities, are supported. Developments in AI. Like GenAI, it will also create new roles and tasks for people, shape how they work and interact with technology. Organizations have to intensify upskilling, reskilling, and cross-skilling activities to prepare their workforce for these changes by using AI.

Through continuous learning, including lifelong learning, and fostering a culture of innovation, businesses can use the full potential of GenAI, ensuring growth, efficiency, and

that employees are equipped with the technical skills needed to succeed in an AI-enhanced world.

With a suitable approach to skill development and a commitment to continuous learning within organizations, GenAI drives innovation, improves decision-making, and creates new growth opportunities.

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