



Corporate Strategies for Retraining Workforces Displaced by Workplace Automation

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ABSTRACT

The job market is changing as a result of workplace automation, which has led to the emergence of opportunities for new technical, analytical, interpersonal and problem-solving skills while eliminating specific routine jobs. This is all being driven by the growth of artificial intelligence (AI), robotics, machine learning, advanced analytics, and digital platforms, making corporate retraining strategies even more critical. The study looked at corporate policies for retraining employees whose job or task was significantly impacted by workplace automation. The study used a secondary quantitative research approach to gather data from internationally harmonised worker-level evidence, international employer surveys, OECD evidence, International Labour Organisation (ILO) research and previous studies on automation, skills, training and organisational transformation. The main empirical evidence comes from over 90,000 employees in 37 industrialized countries, as well as evidence from the World Economic Forum's Future of Jobs 2025 employer survey and OECD evidence on AI-related training. Data analysis involved the following: Descriptive statistics; Comparative analysis of data; Evidence from regression analysis; Fixed-effects estimation; Entropy balancing; Effect-size interpretation and thematic analysis of corporate retraining strategies. The empirical findings indicated that the individual workers who received the company training faced 3.8 percentage points less chance of being automated, or about 8% of the average chance of being automated, and the trained workers increased their hourly wages by 7.1%. Training also helped to enhance workers' engagement in less automatable tasks and helped develop their digital skills. According to the World Economic Forum evidence, 85% of employers surveyed identified workforce upskilling as a key strategy for workforce, 77% planned to focus on reskilling and upskilling people to collaborate with AI, and 47% planned to shift people from jobs impacted by AI to new roles. The results showed that successful corporate retraining is not just one training program, but a system in which workforce skills are mapped, early assessment of automation risk, personal learning paths, paid learning time, management support and internal mobility, digital and AI competency, experience learning, mentoring and ongoing assessment are all interdependent. The research found that a comprehensive reskilling strategy that is embedded in the business model, internal talent mobility, job redesign and technology change is more effective in making companies resilient in terms of their workforce. The results validate a shift from a replacement to a human-technology complementarity model in which attention is paid to human resources skills building alongside automation.

Keywords: workplace automation, workforce retraining, reskilling, upskilling, artificial intelligence, employee development, internal mobility, digital skills, human resource management, technological change.

INTRODUCTION





Background of Study

Automation in the workplace is one of the most critical strategic challenges facing organisations (OECD, 2023; World Economic Forum, 2025). The evolution of AI, robotics, machine learning, cloud computing, advanced analytics, and digital platforms has transformed the way products and services are created and jobs are executed within the organization. Automation isn't just for manufacturing. Increasingly it is impacting the financial services, telecommunications, retail, logistics, healthcare, education, professional services, administration, and other knowledge-driven industries. The resulting shift in focus has moved from should technology be implemented to what is the best way to keep employees productive and employable when technology changes the job-related tasks they perform.

The classical paradigm of automation is about substitution, that is, automation systems substitute human labor when new technologies are used to perform new tasks that humans were previously doing (Autor, 2015; Acemoglu & Restrepo, 2019). But modern studies prove that it's only half the truth. Autor (2015) contended that automation may replace humans in routine, codifiable tasks, but can also augment humans in their ability to solve problems, be flexible, create, make judgments, and interact with others. For their part, Acemoglu and Restrepo (2019) thought about technological change in terms of who does what, that is, who works for who. They differentiate between a displacement effect, which is the result of the transfer of tasks from people to machines, and a reinstatement effect, which comes from the process of technological development, creating new tasks in which people have a comparative advantage.

Such a task-oriented view is of crucial importance for corporate workforce strategy (Autor, 2015; Acemoglu & Restrepo, 2019). Retraining can be a way for workers to transition from intensive automation to work tasks that complement technology if automation replaces tasks rather than replacing all of a job. The organizational challenge is therefore not only to offer generic courses but to know what tasks are changing, what skills are needed in a job and ensure learning is linked to redesigned jobs (OECD, 2023; ILO, 2025).

The problem is quite big. OECD research on the Survey of Adult Skills suggests that around 14% of the jobs in OECD countries participating in the survey are likely to be highly automated and 32% are likely to be significantly transformed. The figures show that the number of workers with relevant occupations is much larger than the number of workers who lose all of their occupations. While many employees continue to be employed, they have to make significant changes in the knowledge, technical skills and behavior they have to use to do their jobs (OECD, 2023; Nedelkoska & Quintini, 2018).

Recent research on generative AI is supportive of this finding. According to ILO's 2025 assessment, about 25% of the worldwide workforce is working in occupations where they are exposed to some level of generative-AI, and that most jobs are more likely to be changed than taken over by AI. For corporations, the message is evident: skills need to be developed systematically, not with an emphasis on redundancy (ILO, 2025; OECD, 2023).

Employer behaviour also illustrates the importance of re-training. As revealed in the World Economic Forum's 'Future of Jobs Report 2025', the top challenge to business transformation cited by 63% of employers surveyed was skills gaps. The top workforce strategy employers expected to take during 2025–2030 was upskilling, which had been employed by 85% of employers. 77% of employers expected to reskill and upskill staff to work more effectively with AI, answering directly to the threat of AI disruption.



Volume 2, Issue 1, 2026

Even with this increasing focus, training remains largely seen as a standalone human-resource function (OECD, 2023; World Economic Forum, 2025). The employees can attend short courses for no obvious future employment purpose; training can be provided only after technological displacement; and those in occupations with the highest risk of automation could be less likely to receive training. OECD studies showed that those in fully automated occupations were more than three times less likely to undergo on-the-job training than those in non-automated occupations. This can pose a paradox for an organization: the workers most in need of retraining may have the least access to them.

There is more recent worker level evidence supporting the usefulness of corporate training. Falck et al. (2026) analysed over 90 000 employees in 37 industrialised countries and identified a negative association between the presence of firm training and workers' automation risk of 3.8 percentage points, which corresponds to some 8% of the average automation risk. In addition to this, training was correlated with a 7.1% higher hourly wage and a higher level of involvement in tasks that are hard to automate.

In this regard, the present research focused on the strategies adopted by companies that are effective in retraining the workforce impacted by automation. The study specifically examined the link between training, automation risk, pay, digital skills, internal mobility, job redesign, organizational support and organizational performance.

Research Problem

One of the main research issues are the workforce capability development can lag behind technological adoption. It is easy to invest heavily in the technology, and then not invest enough in the people who are responsible for running, controlling, understanding, sustaining, and augmenting these technologies. If this imbalance does exist, businesses are exposed to skills gaps, workforce displacement, decreased staff morale, recruitment expenses, missing institutional expertise, and technological change resistance.

This is a major issue because not all employees are affected the same by automation. Technology is likely to be more present for workers doing routine, predictable, and codifiable tasks than for workers doing complex social, analytical, creative, or judgment-intensive tasks. However, the level of distinction between occupations is not enough as there is considerable variation in each occupation. Falck et al. (2026) have found the level of automation risk to be very different across occupations, highlighting the importance of worker-level and task-level analysis.

Research Objectives

The study aimed at the following:

1. To investigate the relationships between workplace automation and the skills needed in the workplace.
2. The effectiveness of corporate retraining in decreasing workers' exposure to automation.
3. To examine the link between workplace training and job-level earnings.
4. To uncover the traits of successful reskilling initiatives within organizations.
5. To explore how digital and AI skills contribute to workforce transition.



Volume 2, Issue 1, 2026

6. To evaluate if internal recruitment or redundancy is an alternative.
7. To create an evidence-based corporate system to retrain workers impacted by automation.

Research Questions

The following research questions were explored:

RQ1: What are the changes in tasks and skills demanded of workers due to workplace automation?

RQ2: Does training by the firm decrease workers' exposure to automation?

RQ3: How is employee wage outcome related to corporate training?

RQ4: What workforce transition corporate re-training strategies work best?

RQ5: What factors are important for retraining workers successfully in the context of internal mobility, managerial support, the use of digitalisation, and job redesign?

LITERATURE REVIEW

The Ecosystem of Automation and the Evolution of Human Job Roles. The Ecosystem of Automation and the Evolution of Job Roles.

While the term automation can be used in a number of different ways and has several meanings, automation is essentially a task transformation process (Autor, 2015; Acemoglu & Restrepo, 2019; OECD, 2023). Organizations adopt technologies because they can provide faster, more accurate, consistent, and/or cost-effective execution of selected activities. But an occupation is usually composed of several tasks and automated tasks don't necessarily mean that the whole occupation is being automated.

Autor (2015) stressed that computers excel at routine and codified tasks, but humans still outperform computers in problem solving, adaptability, creativity, and complex interpersonal interactions. The difference is relevant to corporate training as it will help determine the direction in which employee skills should shift (OECD, 2023).

A complementary task-based framework was offered by Acemoglu and Restrepo (2019). Automation takes jobs from activities that can be automated, but it brings new activities for people to do. Thus, organisations which are able to retrain their employees can potentially move displaced workers to new, or technologically complementary tasks.

From this viewpoint it is also easy to understand why jobs are shifting more than being eliminated. According to ILO's 2025 assessment, one in four workers worldwide is in occupations that have some degree of exposure to generative AI, but most occupations are likely to change rather than be entirely redundant.

The extent of automation is determined by a balance of risk and skills.



Volume 2, Issue 1, 2026

Nedelkoska and Quintini (2018) created an approach to measuring individual job automation risk based on PIAAC data and task-based approach. They studied the situation of workers in 32 OECD countries, and included data on the specific tasks carried out by workers.

Their results are especially relevant to corporate training as the risk of automation is not synonymous with occupational classification. According to OECD, 14% of the jobs will be in high risk of automation, and another 32% will be in substantial transformation of their tasks. Therefore, a significant number of workers must adapt even though the jobs still exist.

This suggests that corporations require skills on the task level (Nedelkoska & Quintini, 2018; OECD, 2023). Job titles like "accounting officer, "customer service representative, "production supervisor" or "administrative officer" are not specific enough to describe the automation exposure. It is necessary for organisations to figure out what specific tasks are being automated, augmented, redesigned or new tasks created under those roles.

Corporate training as a Workforce Adaptation Mechanism

Organizations have one of the most direct ways of responding to technological change: by training employees (OECD, 2023; OECD, 2026). Studies from OECD countries have shown that enterprise training can lead to increased productivity and profitability, and enhance workers' earnings and job prospects.

Nevertheless, access to training is not even (OECD, 2023; Nedelkoska & Quintini, 2018). Those jobs that are more likely to be automated are often less likely to participate in training. In this problem, it is crucial for the company to intervene proactively.

The most recent evidence is from Falck et al. (2026). The authors analyzed data from over 90,000 employees from 37 industrialized countries, using information harmonized across nations, and concluded their analysis shows that on a country level, firm training lowers the individual risk of being automated by 3.8 percentage points. The effect was about 8% of the average of the risks of automation.

The findings also showed that training led to an increase in wages of 7.1%. About 15% of the wage gains of firm training were due to the decrease in the risk of automation. This offers some empirical support that retraining is not just a defensive employee benefit effort, but is correlated with tangible labor market outcomes.

Digital and AI Literacy

AI has broadened the concept of Digital competence (OECD, 2023; OECD, 2026). To interpret software-generated outputs, to evaluate outputs generated by artificial intelligence, to understand data, to detect errors, to safeguard confidential information, and to exercise professional judgment are among the skills that are becoming more frequent in the needs of employees (OECD, 2023; OECD, 2026).

The recent OECD publication of evidence on AI and Skills shows that human skills, including managerial capabilities and problem solving, creativity and innovation are also relevant. Over half of the workers who use AI indicated that they had been provided training by their employer, with employees who had been trained more likely to report positive results of the use of AI in their work, such as improved performance, working conditions and satisfaction.



Volume 2, Issue 1, 2026

This evidence is for a blended retraining model. Technical training is not enough. Technical skills are needed in addition to human abilities for supervision, interpretation, questioning and enhancement of automated systems.

Internal Mobility

Successful retraining is a key aspect of internal mobility (World Economic Forum, 2025; OECD, 2023). Another way to deal with declining jobs is to identify expanding jobs and transfer employees following targeted training, rather than terminating their current jobs.

The World Economic Forum revealed that 51% of employers surveyed said they would promote employees from jobs in a decline to new, growing roles within their organization, and 47% planned to transition employees from a role affected by AI to a different role.

There are a number of organizational benefits to be gained from internal mobility. First, the organization has institutional knowledge. Secondly, recruitment expenses will be lower. Thirdly, there is an increase in employee morale as technological change does not automatically translate to loss of jobs. Fourth, the employees are already familiar with the organizational culture, processes, customers and systems.

Managerial Support

There is no training program without organizational leadership (Diaz et al., 2025; OECD, 2023). Middle managers can determine whether employees have time, encouragement, feedback, and opportunities to learn and use newly acquired skills.

Diaz et al. (2025) investigated training in three organizations and identified a close relationship between employee training participation and middle-manager practices and behavior. Managers who actively involved employees and focused on development had higher rates of employee participation in training, higher employee performance, and lower absenteeism during organizational change.

Through this proof, it's proven that retraining strategy needs management capability. While platforms for training might be available to employees, they might not be taking advantage of them because managers are telling them that learning is not as important as operational goals.

Training duration and employer financing

The quality and intensity of training (Falck et al., 2026; OECD, 2023) are key factors influencing the effectiveness of training. The authors of Falck et al. (2026) revealed that longer training activities were more successful in reducing automation risk and boosting earnings. The study also revealed that training was found to be most effective, if it was being fully or partially funded by the employer.

The discovery defies a growing notion that employees should be the ones to cover the bulk of the expense for adapting to organizational automation. As firms adopt new technologies to boost productivity, they also have an organizational reason for funding the use of the technology by their employees.

Theoretical Framework



Volume 2, Issue 1, 2026

The study combined three complementary theories: the task-based theory of automation, the human capital theory and the resource-based view of the firm (RBV).

Theory Task Based Theory of Automation

The task-based approach sees production as a series of tasks, divided between man and machine. Automation shifts some jobs to machines and new jobs may arise for humans.

In this framework, the change in a job portfolio is retraining. A worker who is currently doing repetitive data entry tasks can be trained to do data interpretation, quality control, customer service, exception processing, or even system monitoring. The employee is still able to bring value to the organization despite the automation of the task.

Human Capital Theory

Based on the human capital theory, the knowledge, skills, experience, and education of workers, which are considered assets of humans, are expected to enhance worker productivity and economic value. Investing in human capital is synonymous with investing in corporate training. With the change of technology, production requirement changes and existing human capital depreciates, while new skills are more valuable.

Retraining thus becomes an organizational reaction to human-capital depreciation as a result of technological change.

Resource-Based View

The resource-based view states that the sources of sustained competitive advantage are those resources that are valuable, rare, difficult to imitate and organizationally embedded. Staff who have experience with the company are valuable tools for an organization.

The substitution of qualified workers with external technology specialists can thus incur hidden costs. Training current staff members maintains the expertise of the organization and enhances its skill sets. Corporate reskilling becomes a tool that transforms human capital to technology-complementary human capital.

METHODOLOGY

Research Design

The study design used was secondary quantitative and analytical research. Data was gathered from existing international data, employer surveys, peer-reviewed research, and institutional research publications on automation, firm training, skills, and wages and/or transition of the workforce.

The main empirical evidence resulted from the internationally harmonized PIAAC-based worker-level study carried out by Falck et al. (2026) which included over 90,000 workers from 37 industrialized countries. Further data from the World Economic Forum's "Future of Jobs Report 2025", OECD publications and ILO research were also gathered.



Volume 2, Issue 1, 2026

This design enabled researchers to draw empirical conclusions from the observed data about the effectiveness of corporate retraining without making any assumptions.

Data Sources

Four streams of evidence were used for the study.

Firm-level PIAAC evidence was then analyzed with respect to firm training, automation risk, wages, digital skills and task composition. The sample size for the data was over 90,000 employees in industries of 37 industrialized economies.

Second, a survey of employers was analysed from the World Economic Forum's 2025 list of workforces. Among the key employer reactions to the survey were upskilling, automation, augmentation, recruitment, transition within the organization, and AI-related reskilling.

Third, the evidence for automation exposure, adult learning, training participation and AI skills were reviewed based on OECD evidence. OECD research found 14% of jobs were at high risk of automation and another 32% at high risk of significant task changes.

Fourth, the research of the ILO was analyzed to explore the exposure to generative AI and the difference between job transformation and job automation.

Variables

The main dependent variable was automation risk, representing the degree to which tasks performed by a worker were susceptible to automation.

A second dependent variable was hourly wage, which was used to determine if training had any effect on economic outcomes.

Firm-provided training was used as the principal independent variable (firm-provided training—job-related training provided through organised sessions, supervisors, fellow employees or other employer-supported means).

Additional outcomes included:

- digital skill development;
- cognitive complexity; and
- problem solving;
- negotiation;
- teaching and advising;
- planning;



- influence and interpersonal work;
- internal mobility;
- workforce retention.

Data Analysis Techniques

A number of quantitative methods were used in analysis.

Descriptive analysis

The quantitative data on automation exposure, employer strategy adoption, training participation, and training outcomes observed was summarized using descriptive analysis.

Regression analysis

Regression-based evidence was used to estimate the association between firm training and automation risk and wages.

The basic relationship was represented as:

[

$$\text{AutomationRisk}_i = \beta_0 + \beta_1 \text{FirmTraining}_i + \beta_2 X_i + \epsilon_i$$

]

where (X_i) denoted characteristics of the worker, industry, occupation and country.

The model for wages was:

[

$$\ln(\text{Wage}_i) = \alpha_0 + \alpha_1 \text{FirmTraining}_i + \alpha_2 X_i + \epsilon_i$$

]

Fixed-effects estimation

To minimize the impact of systematic differences between workers and their work environments, the following controls were added for country, industry, and occupation. Intracountry, intraindustry, and intraoccupation variation was used in the principal empirical study.

Entropy balancing

To make the unobservables of workers more comparable to the trained workers, workers with no explicit training were reweighted using entropy balancing. The approach used included features such as proven



numeracy ability, level of education, demographic, employment status, employer size, industry and occupation.

This helped reinforce the analysis as the training was not chosen at random. Employees who are more motivated, more capable, better managed, or have a greater career direction or ambition might be more likely to receive training.

Comparative analysis

Upskilling, reskilling, internal mobility, recruitment, automation and workforce augmentation were compared to assess their respective importance.

Thematic analysis

Organizational cases and international institutional research were gathered and thematically analyzed to extract elements of effective corporate retraining systems.

DATA ANALYSIS AND RESULTS

Scale of Workforce Transformation

First, the extent of technological workforce transformation was identified.

About 14% of all occupations in OECD countries in the sample were found to be very likely to be automated, and another 32% to be significantly transformed by automation.

So, about 46% of jobs were considered to be high-risk or significantly transformed. This is not to say that 46% of workers had to go out of work. The outcome, however, is that a significant proportion of employment was vulnerable to technological change.

This distinction was reinforced by the ILO. According to an analysis by the company in 2025, 25% of all workers in the world were in a job with some exposure to generative-AI, but not all of them were likely to be replaced, as human input was still required.

The results thus confirmed the task transformation model, but not just the job destruction model.

Employer Adoption of Upskilling

The data from the World Economic Forum was a great indicator that companies were aware of the need to re-train.

Corporate workforce strategy

Employers reporting strategy



Volume 2, Issue 1, 2026

Workforce upskilling

85%

Process/task automation

73%

Incorporating technology into the workforce to enhance capabilities. Increasing workforce through technology.

63%

Hiring emerging skills

70%

The transition of declining to growing roles within the workplace. The change of roles within the workplace from decline to growth.

51%

Staffing cuts as a result of skills obsolescence

41%

Upskilling/Reskilling jobs to collaborate with AI

77%

The talent to design AI recruiting tools. The talent needed to create AI recruiting tools.

69%

Hiring employees able to work with AI

62%

Ensuring worker transition from AI-driven jobs

47%

Adjusting business models for the opportunities presented by AI. Redesigning business models around opportunities of AI.

49%



Volume 2, Issue 1, 2026

The data highlight that retraining was not a sideline measure. Upskilling was the most common workforce change reported by 85% of the employers surveyed.

The finding is especially significant when compared to the level of automation adoption. While 85% of employers expected to up-skill their workforce, 73% expected to speed up process and task automation. This means that more and more of leading organisations are seeing the value of investing in automation as well as employee development.

The firm's training program has an impact on the risks associated with automation.

The principal quantitative finding was derived from the evidence of workers internationally.

Training by the firm had 3.8 percentage points less automation risk. The decrease amounted to around eight percent of the mean level of automation risk.

This was the main research question addressed. There was a significant correlation between corporate training and reduction of employees' exposure to automation.

The outcome was significant since it was not just occupation to occupation that the study examined. It incorporated information on individual tasks and variation between occupations. Therefore, for some workers in the same occupation, the level of automation exposure may vary due to the type of tasks they were exposed to.

The finding lends credibility to the hypothesis that training is more about reshaping the composition of employees' work rather than simply about making them more efficient at doing work which is growing obsolete.

Effect on Wages

Another finding of the analysis was that there was a positive correlation between wages and firm training.

In the preferred specification, the estimated change in hourly wage rates for workers with firm training was 7.1%.

This discovery is an economic incentive for corporate training. Training does not only provide the benefit of making workers less replaceable by machines; training also gives workers new skills that increase the economic value of their work.

About 15% of the wage returns to firm training were due to the reduction in automation risk. This suggests that one way in which training promotes wage growth is by reducing opportunities to be exposed to automation. Other pathways involve growing productivity, digital skills, and the scope of tasks.

Change in Employee Task Composition

A second mechanism was identified by the analysis by which training mitigated automation vulnerability, called task redistribution.



Volume 2, Issue 1, 2026

Workers who were trained found greater participation in activities that were more difficult to automate, such as:

- negotiation;
- complex problem solving;
- teaching;
- advising;
- influencing others;
- Organising other peoples work.

Meanwhile, training also brought up some automated tasks but the increase was much less significant.

The findings suggest that the effective training does not necessarily take employees away from the use of technology. Rather, it brings employees together to a wider range of tasks where decisions are made with a mix of human and technological aspects.

Digital Skills

There was also a high level of firm training which helped to improve workers' digital skills.

This finding shows that the use of corporate training is becoming more and more a way of technological integration. New software doesn't just get installed on employees' computers – they learn to use it. They gain knowledge in the use of technology for decision making, workflow, problem solving and service delivery.

The results align with OECD data that suggests that individuals with employer-funded AI-related training report higher positive results from AI adoption, such as greater job performance and working conditions.

Training Effectiveness for Demographic Groups

The evidence from different countries demonstrated it worked across any age, gender and education groups.

This is particularly important as it implies that corporate training does not have to be limited to highly educated or younger workers. Well-conceived training can deliver value to a variety of workers in the workforce.

The finding also contradicts the idea that older, or less formally trained workers should be retired or replaced when technology evolves. Instead, the evidence calls for investments in flexible learning systems.

Training Duration



Volume 2, Issue 1, 2026

The training period made a difference. Longer training activities led to higher reductions in automation risk and higher wage benefits.

This discovery indicates that superficial training is not enough for greater transformation of the workforce. Deeper capability development needs to be repeated through practice, feedback, application and assessment, whereas shorter awareness sessions may be sufficient to introduce employees to new technologies.

The outcome also facilitates modular training approaches. Instead of one big training course, companies can offer a series of training sessions that develop technical, analytical, interpersonal and strategic skills.

Employer Financing

It had been found that training funded by employers was especially effective. About 70% of the workers in the international sample were fully or partly paid for by the employer and employer-financed training had a positive effect on the training's effectiveness.

There is a strategic implication to employer financing. If employees are unable to produce returns from using the technology, then the organization stands to have a direct interest in employees being able to develop those capabilities when the organization introduces automation.

Participate in Managerial Support and Training

Organisational evidence analysis revealed that middle managers were important in the training participation.

Diaz et al. (2025) identified that managers who actively involved employees and focused on their development were the ones that had higher participation rate in training, better employee performance and lower absenteeism during organizational change.

That implies the management's responsibility in corporate retraining. Having access to a learning platform is not enough to conclude training and learning success. Managers need to schedule time for learning, invite involvement, give feedback, and give opportunities for employees to put new skills into practice.

DISCUSSION

The findings confirm that retraining programs for companies are an economically viable response to automation in the workplace.

First, the data shows that there is significant heterogeneity in automation exposure, and it is very common. Around 14% of OECD occupations are likely to be highly automated and another 32% highly likely to be transformed in the tasks they perform. This aligns with the evidence that corporations need to shift away from "workforce planning based on occupation" to "planning skills based on tasks."

Secondly, the results show that training decreases the vulnerability of automation. The economic significance of a 3.8-percentage-point reduction in automation risk is that it is about 8% of the average automation risk.



Volume 2, Issue 1, 2026

Third, the wage outcome shows that retraining is an economic value activity. The results revealed that there was a 7.1 percent wage increase for trained workers, indicating a correlation between capability development and enhanced productivity and labour-market value.

Fourth, the results of the task-composition studies account for the training effect. Staff are not as dependent on repetitive work and are more likely to be involved in complex problem solving, negotiation, teaching, advising, planning and other activities that complement technology.

Fifth, because corporate action shows that there is a recognition of the importance of reskilling. Fifth, because there is a recognition of the importance of reskilling by the employer. 85% of employers surveyed said that upskilling was a key workforce strategy and 77% said that they would reskill or upskill their existing employees to better collaborate with AI.

The evidence thus points to a change in strategy from replacement to redeployment.

Corporate Strategies for Retraining Automation-Affected Workforces

Practice: Identify areas of the business that could benefit from automation. Exercises: Create an Automation Skills-Impact Map.

Retraining should be initiated systematically by the organization with a workforce diagnosis.

The first step is to identify all the key occupations and break them down into their tasks. At the end of each task, you should be able to describe it as:

1. highly automatable;
2. partially automatable;
3. technology-augmented;
4. human-complementary;
5. newly emerging.

This process forms an automation skills-impact map.

In banking, for instance, while a lot of transactions are processed automatically, fraud analysis, customer relationship management, financial advising, compliance interpretation, and exception management are all still done a lot by hand.

It is not intended for the purpose of identifying employees for termination. The aim is to identify skills that employees must acquire to be able to advance to better-paying jobs. The goal is to determine what kind of skills personnel must learn to accept better-paying positions.

Strategy 2: Develop individual skills profiles

Once a task map has been created, the individual employees are then assessed.



A skills profile should contain the following:

- current technical skills;
- digital proficiency;
- analytical capability;
- communication;
- problem solving;
- leadership;
- domain knowledge;
- learning agility;
- experience;
- current role;
- future-role potential.

This skills gap analysis provides a picture of the gap between what skills are currently available and what skills will be needed to meet future job needs.

Strategy 3: Set up Individualized Reskilling Pathways

Employees need individualized learning. Individualized learning should be provided to employees instead of generic training.

A worker who has his/her administrative work streamlined could be taught to work with data analytics, digital workflow management, customer relationship management, or AI-supported decision making.

A manufacturing worker could be trained to be a robotics supervisor, predictive maintenance specialist, industrial data analyst, quality control specialist, or work safety specialist.

Individualization results in increased relevance and decreased employee perceptions of retraining as a remedial intervention.

Strategy 4: Provide Paid Learning Time

Training is a failure if employees are expected to learn beyond their usual tasks.

Organizations should reserve protected learning hours within the working hours. One of OECD studies that have pointed to the lack of employee and management time as a key restraint in enterprise training.



Volume 2, Issue 1, 2026

PLT it sends the message that skill building is not an extra step in the job, it is part of the job.

Strategy 5: Integrate Technical Skills with Human Skills

Corporate retraining should involve:

- digital literacy;
- AI literacy;
- data analysis;
- cybersecurity awareness;
- software competence;
- problem solving;
- communication;
- negotiation;
- creativity;
- leadership;
- critical thinking.

This sounds like what is observed by the OECD in AI powered workplaces: managerial and human capabilities like problem solving, creativity, and innovation continue to be significant.

Strategy 6: Build in-house Talent Marketplaces

A good idea is to create your own talent marketplace where employees can find new positions, skills needed, training, part-time jobs, and full-time internal transfers.

A job seeker who is looking for a new job in the same company can then discover a new job within the company.

This idea is backed up by the WEF evidence that 51% of employers expected internal transitions to increase from low to high.

Apprenticeships and Experiential Learning Strategy

Practical assignments should go hand-in-hand with classroom training.

Learners can get new technologies via:



Volume 2, Issue 1, 2026

- job rotation;
- project assignments;
- mentoring;
- simulations;
- apprenticeships;
- supervised technology implementation;
- cross-functional teams.

Experiential learning enables workers to translate theory into work skills.

Strategy 8: Establish AI Literacy for All Employees

IT departments should not be the only ones responsible for AI literacy.

All staff who are exposed to using AI systems must be aware of:

- how the technology works; and
- what its limitations are;
- how to measure the results of the output;

When man has to make a judgment;

- how confidential information should be protected;
- how bias and errors can occur;
- how AI affects the employee's responsibilities.

ILO notes that while some occupations may be significantly impacted by generative AI, there are no occupations that are being totally replaced by AI, but rather those occupations are being transformed, and workers' participation is an important topic in the debate on workforce implications of the use of these technologies.

Increase the ability of middle managers

Managers need to be trained to be leaders of staff transitions.

These should involve:

- identifying skill gaps;



Volume 2, Issue 1, 2026

- encouraging training participation;
- protecting learning time;
- providing feedback;
- identifying internal opportunities;
- helping people who are technologically anxious;

Monitoring of New Skills Being Applied

Diaz et al. (2025) provide evidence that managerial behavior is closely related to employee involvement and output in the process of implementing organizational change.

Strategy 10: Connect Training with Real Jobs

The biggest drawback to corporate training is that learning and employment are divorced.

Training should, therefore, be linked to real need within the organisation.

Prior to starting a program, HR departments need to determine:

- what skills are new or needed; and
- what is causing the decline of certain positions;
- what skills are needed for those positions;
- Determine the number of vacancies to be expected;
- Who the current staff members are who would be appropriate candidates.

This forms a closed circuit:

Implementing technology → task analysis → skills gap → training → assessment → mobility within the organization → productivity measurement.

Strategy 11 helps to build continuous reskilling.

Retraining should not be a one-time process brought on by automation.

Technology evolves in a constant manner, and hence, organizations have to have a continuous learning system.

A sustainable model involves regular reviews (quarterly or semi-annually) of skills, annual capability planning of staff, and continuous micro-learning.



Volume 2, Issue 1, 2026

The goal is to not allow workers to get to the stage where the skills they already possess are already outdated.

Create indicators to measure the return on reskilling investment: Strategy 12

Measurable indicators should be used to judge the success of corporate retraining.

Recommended KPIs include:

- training completion;
- certification rates;
- post-training skill scores;
- internal mobility;
- retention;
- absenteeism;
- productivity;
- wage progression;
- automation-risk reduction;
- time to proficiency;
- technology adoption;
- employee engagement;
- external recruitment avoided.

One valuable return on reskilling ratio is:

[

$ROI_{\text{reskilling}} =$

Financial Benefits - Cost of Reskilling is the ratio of the financial benefits to the cost of a reskilling program.

$\frac{\text{Cost of Reskilling}}{\text{Cost of Reskilling}} \times 100$

]



Volume 2, Issue 1, 2026

The financial impacts can include productivity gains, decreased recruitment spending, decreased turnover, decreased redundancy expenses, and/or increased revenue from new capabilities.

Proposed Corporate Retraining Framework

The evidence shows a framework of seven stages for corporate retraining.

Stage 1: Diagnose

Develop awareness of new technologies and their effect on tasks.

Stage 2: Forecast

Recognize new or changing job roles and needs.

Stage 3: Assess

Assess individual employee skills against future needs.

Stage 4: Retrain

Offer tailored technical, digital, AI, analysis and human skills development.

Stage 5: Apply

Provide staff with hands-on experience in applying new skills.

Stage 6: Redeploy

Internal succession: provide opportunities for qualified employees to advance in their careers.

Stage 7: Evaluate

Track productivity changes, wages, employee churn, skill sets, automation exposure, and employee engagement.

The framework establishes a direct link between technological investment and human-capital investment.

Case Evidence: AT&T and Large-Scale Workforce Transformation

The case of AT&T is an example of a large-scale corporate retraining. Telecommunications technology rapidly evolved and there was a significant disparity between current employees' skills and new business needs. This organization identified a need to retrain some 100,000 employees by 2020.

The case illustrates some key points: Retraining needs should be tied to strategic workforce planning. The organization wasn't just delivering educational benefits in general, the challenge arose because they needed to match the existing workforce with new technology and business demands.



Volume 2, Issue 1, 2026

The case also illustrates the challenges of undertaking a large-scale reskilling programme at an organizational level. Staff need to acquire new skills and abilities, and fulfil operational needs. As a result, training architecture, managerial support, career paths and internal mobility should be all in place at the same time.

Of the ten strategic implications for HRM, five are most pertinent. Of these 10 strategic implications for HRM, five are most relevant.

The findings have a significant impact on the nature of human resource management.

Typically, HR departments are required to work on recruitment, employee compensation, employee performance management, employee relations and training. In fast-changing automation times, HR more and more gets to be considered a strategic workforce-architecture role.

HR professionals have to have a working knowledge of technology and understand it well enough to predict its impact on job descriptions. They will need to work with IT, ops, finance and business-unit management to determine future staffing needs.

This brings in a new strategic position to HR:

How many employees does it take to make up a team?

What work needs to be done, what technology can do the work, what skills are human and what can be done to make our current workforces more capable?

Workforce Planning is no longer about managing headcount, it's about managing capabilities.

Organizational leadership implications.

Retraining is a key element to a successful leadership.

Technology is often viewed by employees as a danger to their jobs, their position in society, their sense of professional identity and their financial security. Thus, organizational leaders need to clearly convey that their automation plan must have an accompanying workforce transition plan.

The following are areas of transparent communication which should include the following:

- how the technology is being utilised; and
- What parts of the jobs are changing;
- what jobs they are growing; and
- what are the skills needed;
- where to get training;
- how employees can qualify for new positions.



Volume 2, Issue 1, 2026

Social dialogue and anticipatory strategies to technological transitions have been stressed by the ILO, with a particular focus on redeployment and training, if feasible.

Therefore, the leadership will shape the employees' attitude towards automation as a threat or opportunity for career progression.

Financial Issues of business retraining.

Retraining is often seen as an expense by organizations. The facts, however, do not support a contrary conclusion; namely, training brings economic returns.

The 7.1% increase in wages that is observed when the firm provides training suggests that the provision of training is improving the worker's economic situation. Organizational-improving benefits, such as productivity, retention, or reduced hiring needs and technology usage, can counterbalance training investments.

A brief comparison of a company is:

[

Cost_{replacement}

Although the terms are related, they are distinct. The terms are correlated but not synonymous - Recruitment + Selection + Onboarding + Lost Knowledge + Turnover.

]

versus

[

Cost_{reskilling}

Training + Learning Time + Assessment + Transition Support

]

Retraining could be a more economical choice than replacement if organizational knowledge is high and the employee is transferable.

This is especially true of those who have already worked for an employer and bring knowledge and skills to their jobs that go beyond their academic qualifications. It is challenging to buy institutional knowledge, customer relationships, organization routines, and tacit knowledge directly from the external labor market.

Risk Assessment

There are a number of pitfalls associated with company re-training.



Financing Work Experience

Training can take place without opportunities for employees to use their skills. Training can be undertaken but not with opportunities for employees to use their skills. This decreases motivation and creates frustration.

Mitigation: Link training to identified upcoming future job opportunities.

Managerial Resistance

Managers might focus on productivity rather than learning.

Mitigation: include training participation and workforce development in managerial performance indicators.

Employee Resistance

Staff can be worried that training is a hidden message that they are losing their jobs.

Mitigation: Make internal and career pathways clear.

Skill Mismatch

Courses can be taught on technologies that are not related to any specific organization's needs.

Mitigation: Start with a task and workforce demand analysis.

Digital Inequality

Employees have different levels of digital competence.

Mitigation: offer differing learning pathways, not just one pathway.

Training Fatigue

Overwide learning requirements can cause employees to become overwhelmed.

Mitigation: Implement stages and certification, and protected learning time, and use modular programs.

Technology Outpaces Training

The training product can become outdated due to fast technological advancement.

Mitigation: continuous review of the curriculum and module learning.

Discussion of Findings In relation to the Research Questions.



Volume 2, Issue 1, 2026

RQ1: What changes in the nature of employees' tasks and skills are being brought about by workplace automation?

The evidence suggests that automation affects the nature of jobs, rather than replacing jobs. The regular and routinized tasks are more vulnerable, and the analytical, social, creative and judgement-based tasks are relatively more important.

RQ3: Does firm training help to minimize workers' exposure to automation?

Yes. The international worker-level evidence revealed a reduction of 3.8 percentage points in the risk of automation, which is about 8% of the average risk of automation, due to firm training.

RQ3: Is there a linkage between corporate training and employee wage outcomes?

There was a 7.1% higher wage increase attributable to firm training. The reduction in the risk of automation accounted for about 15% of the wage return to firm training.

RQ4: What are the most successful corporate retraining approaches for workforce transition?

Integrated strategies based on skills mapping, individualized training, longer duration learning, financing by employers, practical application, internal mobility, digital skills, human skills and managerial support are supported by evidence.

RQ5: What are the roles of internal mobility, managerial support, digital skills and job redesign in the context of successful workforce retraining?

Internal mobility turns training into jobs, managerial support makes it easier to participate, digital skills boost the use of technology and job redesign moves the workforce to more non-automatable and complementary work. The findings endorse consideration of all four as a single strategy for the workforce and not as individual HR endeavors.

CONCLUSION

The study analyzed how companies are planning to upskill their workforce, which has been either displaced or significantly impacted by the automation of jobs. By analyzing the data, the study highlighted that automation is not merely about a shift from man to machine, but it's a shift in tasks and capabilities.

The empirical findings yielded some significant results. There is a significant amount of automation exposure. The OECD evidence shows that 14% of jobs are likely to be automated and an additional 32% are likely to have a substantial change in their tasks. Second, the corporate employers are increasingly aware of the need for workforce development. According to the World Economic Forum, 85% of employers considered upskilling to be one of their top workforce strategies and 77% expected to reskill and upskill their staff to co-operate with AI.

Third, the best empirical evidence at the worker level showed that firm training reduced the automation risk by 3.8 percentage points, which is 8% of the average of the risk of automation. The hourly wage premium of training was 7.1% (no. 4). Fifth, training was causing a reorientation of employees toward



Volume 2, Issue 1, 2026

work activities more amenable to relative ease of automation, such as negotiation, complex problem solving, teaching, advising, planning, etc.

The finding of these results proves corporate retraining is not just an employee welfare. It's an investment in organizational adaptability.

The main conclusion is that technology and human capability must be invested concurrently to be successful with automation. Without retraining, an organisation's automation may lead to a shortage of skills, job displacement, loss of institutional knowledge, and reluctance to embrace technology change. However, companies that trace activities, forecast skills needs, reskill workers, assist managers, develop internal mobility plans and track results can turn technological change into a workforce change.

The best corporate strategy, then, is a complementary model between people and technology. In this approach, machines are used to do things where automation is more effective than humans, and humans learn to do things that complement technology. The workers are expected to interpret, judge, be creative, think in complex ways, manage relationships, create, supervise, and design new processes.

Evidence also shows that the retraining should start prior to the displacement. Delaying job replacement until after the workers have been fired makes orderly redeployment of these employees less possible and costs the economy and society more in terms of unemployment and the costs of the technological transition. Workforce planning needs to, therefore, uncover the exposure to automation prior to technology rollout.

Retraining within the company should also be ongoing. Technology is constantly evolving and once employees have been trained, they might find themselves out of a job in the future because of changing requirements. Systems of lifelong learning, periodic skills assessment, internal talent marketplaces, modular training and continuous career development are needed in organizations.

Lastly, there is a shared responsibility for adapting the workforce. Trainers offer training, time, technology, and internal opportunities; learners actively engage in learning processes; managers provide supportive learning environments; education systems offer relevant learning programs; governments, and the public in general, ensure supportive policies and technological transitions. ILO's focus on training and redeployment, social dialogue, and worker protection, further strengthens this shared responsibility approach.

In conclusion, the study confirms that retraining workers is one of the most crucial organizational mechanisms for making automation a means of productivity, career growth and a sustainable competitive edge.

RECOMMENDATIONS

According to the empirical results, the following suggestions are offered to corporations:

1. Perform automation assessments on the task level prior to undertaking major automation projects.
2. Create an inventory of skills at the enterprise level for present and future needs.
3. If employees have transferable skills, train them for a job before letting them go.



Volume 2, Issue 1, 2026

4. Fund employer-led training – evidence shows that better training results when training is funded by the employer.
5. Provide protected paid learning time – do not expect employees to train outside of their working hours.
6. Develop personal reskilling plans for employees in accordance with their skills deficits.
7. Promote AI and digital literacy throughout the organization, beyond the IT team.
8. Integrate technical abilities with human abilities like creativity, leadership, problem solving, negotiation and communication.
9. Create internal talent marketplaces to match retrained workers to emerging jobs.
10. Develop middle managers' ability to assist in transitioning to new technologies and workforce development.
11. Incorporate mentoring, job rotation, apprenticeships, simulations and/or project-based learning in practical learning methods.
12. Connect to real future employment opportunities to achieve meaningful learning outcomes in the form of jobs.
13. Track automation-risk reduction as a workforce-development metric.
14. Use productivity, retention, recruitment savings, wage progression as well as technology adoption to measure reskilling ROI.
15. Create learning systems, not retraining programs.
16. Communicate openly to let staff know the impact of automation on jobs and the opportunities for retraining.
17. Consider internal mobility when possible, to retain the institutional knowledge of experienced employees.
18. Always review training curricula—technology and skills evolve quickly.
19. Link workforce strategy to technology investment decisions, and make human-capital planning decisions while making technology planning decisions.
20. Take a human-first approach to automation and consider how automation can support rather than replace workers.

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