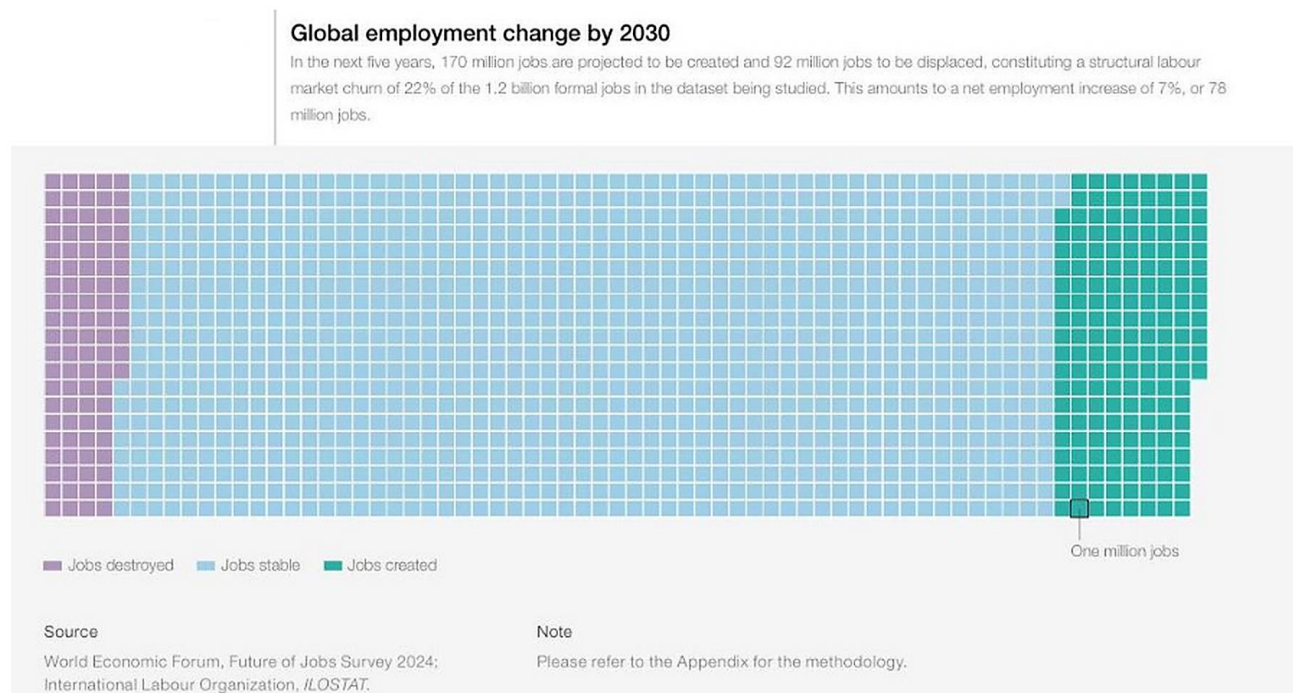


Skill Homeostasis: A Dual Channel Framework for AI-Ready Workforce Transformation

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The myth of a stable career is now dead. Whether in finance, tech, or consulting, no industry is safe anymore from the havoc of AI. The evidence is clear: tech giants like Google and Amazon are laying off thousands, while Microsoft itself slashed 15,000 jobs. According to the World Economic Forum's 2025 Future of Jobs Report, 85 million jobs may be displaced by AI, while 97 million new roles can emerge, depending on upcoming skills. Tech, once considered a haven of stability after its early 2000s boom, now highlights a new reality: employers now value skills and adaptability more than degrees and theoretical learning, and this has made the job market a game of uncertainty.

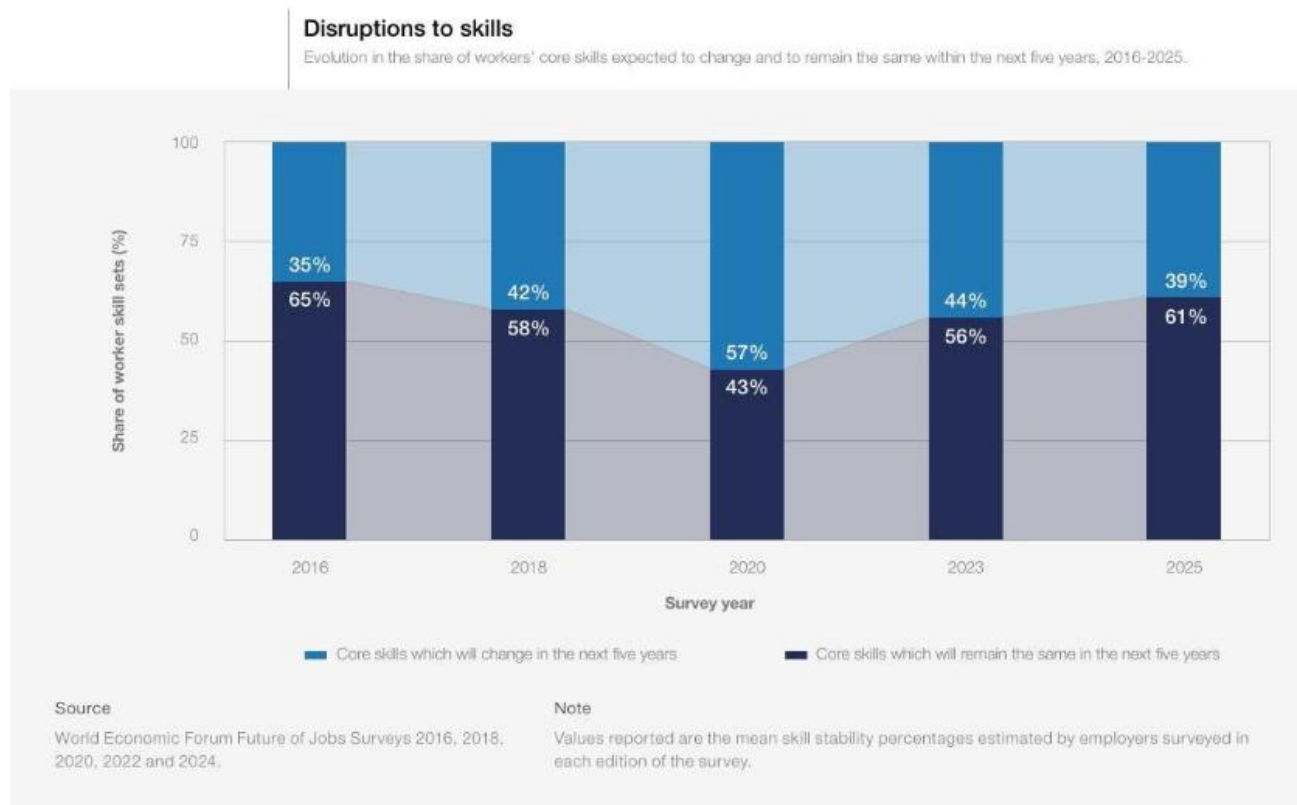


Source: World Economic Forum

A skill gap is the difference between the abilities workers possess and the skills employers demand. This gap arises due to multileveled structural misalignment. At the grassroot level university curricula often fail to keep pace with rapid technological and industrial shifts. Minor curriculum updates are only temporary fixes and for a long term solution we need a continuous system that rebalances the labour markets.

The problem is also deep-rooted, as current solutions are reactive rather than proactive. Companies still rely on traditional learning and development programs (L&D programs) that are essentially designed to address skill deficiencies once the damage is done. This leads to the emergence of a lagging workforce that is educated but outdated, trained but not adaptive to the crisis the rapidly evolving world poses.

Adaptability is the need of the hour, and with workers slowly realising the complications and skill gaps that AI poses to their future, they are becoming more willing to change their habits. According to a survey conducted by edX, 65% of the adults surveyed believe that the current state of the economy has them considering upskilling or reskilling.



Source: World Economic Forum

With these data points in the picture, it has dawned on our workforce as well as the students about to enter the workforce that if they do not take measures to improve, the future will look bleak. The onus of change cannot just rest solely on individuals. It is time for institutions and administrations to take responsibility and restructure themselves such that there are long-term benefits for the workforce at large and a systematic change brought in the mindset of our workforce that if they do not take measures to improve, the future will look bleak. The onus of change cannot just rest solely on individuals. It is time for institutions and administrations to take responsibility and restructure themselves such that there are long-term benefits for the workforce at large and a systematic change brought in the mindset of our workforce.

To overcome this skill gap, we propose a Skill Homeostasis framework. This is a model inspired by the sodium-potassium pump in human cells which maintains stability by regulating essential ions. The mechanism maintains stability by expelling sodium (Na^+) and importing potassium (K^+) much like the economy which functions by continuously shedding obsolete skills while prioritising in-demand ones. This framework is built on three fundamental pillars: governance reform, academic transformation and corporate adaptation.

Academic transformation starts with governance reform. At the university level, governance refers to the Board of Studies Council that outlines the curriculum for students. Currently, the board comprises non-relevant members, such as the university management, that are not field experts (45%), senior academicians and old industry experts (35%), outdated PhDs (10%) whose research might not be relevant today while only 5% of the members are from new-age technology companies.

Due to this imbalance of relevant people of the industry in the Board of Studies of a University, a structural supply-demand mismatch arises in the labour market: universities supply graduates whose skills are no match for the industry needs. This mismatch is what economists call structural unemployment: workers are ready to work but their skills are not ready for the employer's work. The composition of the board is such that only a small proportion understands the need to integrate new

age technology experts who are aware of the present market trends and can guide the university as to how their curriculum should be developed.

The solution to this is that universities must restructure their academic board with up to 30% representation from new-age technology companies as well as industry experts who are relevant to the market and aware of its needs. Along with this, they can keep 10-15% of recent alumni working in the market with the remaining seats held by the professors and university management.

Such reforms guarantee that students study course material that is aligned with the demands of the present. This restructuring works like the sodium-potassium pump in human cells. Outdated concepts are expelled, similar to the body flushing out sodium, while fresh insights from the industry are welcomed, much like the intake of potassium in the human body. While the pump helps to maintain life in our cells, the balance between new age industry experts and academia maintains the relevance and sustenance of graduates.

It is time that universities start to position themselves as skill factories rather than textbook material feeders. In the short term, this means involving AI professionals in curriculum design, embedding real world tools in coursework and dividing courses into three modules: core knowledge, automation modules and soft skills- weighted by job market needs.

Over the long term, students should collaborate with firms on AI-integrated projects, balancing academic theory (Na⁺) and employable action (K⁺). An example of this policy is what the University of Derby is inculcating. It has introduced a two-year Bsc programme in international business and AI, in partnership with global industry giant Rolls-Royce. Along with case studies developed by both academicians and industry professionals, students will get the opportunity to work on projects with industry leaders and get mentorship on the relevance of how businesses function in the age of AI.

Another example is Ohio State University, which has mandated AI fluency for all its undergraduate students. Through extensive coursework, they hope to make students bilingual: proficient in both their majors as well as the AI implications that can be adapted in it. In the current setup, students have to face “double costs”: paying for expensive tuition at their respective universities as well as avail in exorbitant programs and courses to teach them the industry relevant skills.

After embedding relevant skill first coursework into university curriculum, universities help students to no longer rely on external coursework, saving both time and money. In economics, education serves as an investment in human capital. By embedding AI and teaching relevant skills, universities increase the productivity of graduates, minimizing the opportunity cost of outdated education, aligning the supply of graduates with the demand of market players.

This process mirrors our body cells. For the survival of life, the sodium-potassium pump never rests. Much like this, skill homeostasis cannot just be a one-time effort and should be an ongoing process of renewal.

Universities alone cannot bridge this gap. They need the support of corporations. While universities can play a fundamental role in the development of the students about to enter the labour force, corporations need to invest in upskilling the workforce that has already entered the market. Currently, the traditional Learning & Development programs are “reactive” and address skill gaps once they appear. We need a more preventive approach that can reduce the risk of frictional unemployment, where workers are temporarily displaced when they search for new roles.

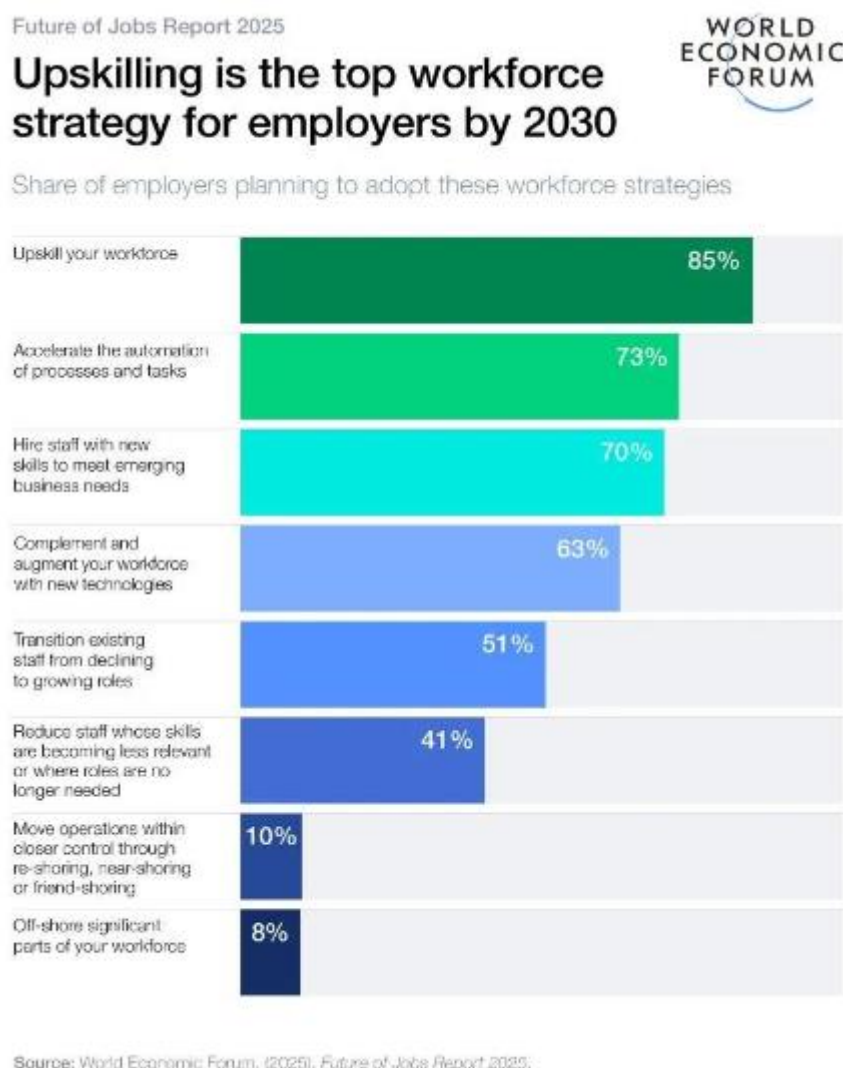
Firms must invest in micro-learning upskilling modules, delivered post working hours, and cross-company skill exchange programs, which can broaden employee exposure. They can allocate a fixed “learning” budget for their employees to spend on relevant programs that can upskill them if the company themselves are unable to launch a mass-scale program. This acts like a subsidy by lowering the private cost of education while increasing the collective benefit that a company will get due to its

skilled workforce.

Additionally, employees can shadow roles across the company for 2-4 hours a week. For example, an HR employee shadows an AI engineer to understand how better prompts can be given. This helps to diversify the skill set of employees and gives them a better understanding of the new technologies that they can integrate into their present roles.

Various companies in the industry have already understood this and have started actively working on it. Indian IT giants such as Tata Consultancy Services (TCS) and Tech Mahindra have started training employees in AI. TCS has planned to get 25,000 of its associates trained and certified on Azure Open AI, Microsoft's cloud-based platform.

By integrating these three pillars into our corporations and educational institutions, we can produce an efficient and adaptable labour force.



Source: World Economic Forum

Companies in the current industry also note the issue of the skill gap, and some of them are actively trying to solve this, not only to improve industry standards but also to improve the workforce in their companies. There is an overall lack of awareness amongst the employees hence career information is very essential.

Many industry leaders are paving the way for this skill homeostatic framework. They have not completely implemented the approach, but certain aspects resonate with the proposed framework and

provide some testimony to the success of this approach. We now delve into a few companies and the approaches for the future ahead.

IBM is one such company that is working exhaustively on skilling its employees; it has partnered with more than 170 new academic and industry institutions. Recognizing that a one-size-fits-all approach is inefficient, IBM offers a diverse set of courses tailored to different learning needs.

The company also provides mentorship to learners through multiple channels, including online learning and development, on-the-job training, skill gap analysis, career path development, and personalized guidance. At IBM, both Reskilling (the process of learning an entirely new set of skills for a new job) and Upskilling (the process of improving employee skill sets through AI training and development programs) are emphasized, ensuring adaptability and relevance in a rapidly changing technological environment.

On the same lines, Pepsi has demonstrated how structured career planning enhances employee growth. Over the years, Pepsico has developed several initiatives like Pepsico Leadership Model, MyDevelopment, where using AI-driven personalised suggestions, employees are given short-term assignments beyond their ordinary roles, helping them explore different career paths, and MyEducation to provide access to more than 100 diploma, certificate, and degree options in a variety of fields at no cost to them to bring cross-functional mobility to the employees.

This structured approach is in tandem with the concept of skill homeostasis, where organizations not only bridge skill gaps but also ensure a long-term fix by equipping their workforce with both education and opportunities, and empowering employees to take ownership of their own development and growth.

Companies like PepsiCo and IBM have understood the relevance of keeping the workforce up to date. It is time we, as a society, understand that the skill gap is not the problem. The systematic imbalance in the labour market, which is dictated by outdated mindsets and traditional approaches that are irrelevant in today's economy, is the problem.

Our framework of skill homeostasis based on governance reform, academic transformation, and corporate reform helps to ensure that the workforce, students, universities, and corporations are prepared for the future and can handle all challenges hurled at them. Without this, economies can risk collapsing under AI-powered disruptions just like how cells cannot survive without the sodium potassium pump.

All data has been sourced from:

[WEF Future of Jobs report.](#)