



Whitepaper

# Upskilling and Reskilling for Workforce of the Future

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# Abstract

Technological advancement is an unstoppable wave. The last decade has seen groundbreaking technological innovations that have caused disruptions across industries.

Automation will continue to make many job functions redundant, and executives at the management level of companies are looking at opportunities to redeploy the workforce in newer technology areas for business value realization. The growing demand for technical know-how related to big data, IoT, and machine learning has created a skillset gap in the technology market. The disruption caused by automation along with skillset gaps has led to companies initiating upskilling and reskilling programs for at-risk employees, and to bridge the skillset gap. Companies and governments across the globe have started to invest in upskilling and reskilling programs. Upskilling and reskilling employees, albeit a huge investment, is one that will have a fruitful pay-off in the future.

Apart from this, the lack of relevant curriculum and qualified faculty at the university level is a challenge in this regard. Currently, traditional training programs suffer from being irrelevant to the industry skillset requirements, rendering them ineffective. Senior-level executives must carefully devise upskilling and reskilling programs avoiding the flaws of their traditional counterparts. Soft skills are equally important when it comes to upskilling and reskilling and should be smartly integrated into the training programs. Even at the hiring stage, weightage should be given to the learnability and adaptability of candidates along with their educational background and technical skillset.

Upskilling and reskilling not only safeguard the future of the workforce but also lead to their overall development and career growth. Proper incentives must be provided, and a culture of continuous, lifelong learning must be cultivated in the company.



## Automation and its Ripple Effects

Industry 4.0, or the Fourth Industrial Revolution, automation and artificial intelligence has an all-encompassing impact across industries. With data becoming the new currency, it will aid in manufacturing, agriculture, healthcare, transportation, and retail, among other verticals. A change in the workforce and the workflow is in the offering; while there is a fear that robots will steal jobs automating the more time-consuming and monotonous tasks will allow the workforce to focus on meaningful tasks and will open up remote working opportunities.

A report by McKinsey Global Institute predicts that by 2030, an estimated 375 million workers—which accounts for almost 14% of the global workforce—would be displaced by the advent of Industry 4.0, and by extension, automation and artificial intelligence.<sup>1</sup> The use of robots to perform tasks to increase productivity and output has endangered the employment of millions of workers, opening the case for upskilling and reskilling the workforce in the age of automation.

Handling smart machines requires a certain level of digital competency. Developing the technical know-how and vital soft skills require training in the form of company-wide upskilling and reskilling programs. This not only leads to the growth and development of the workforce but also secures their future in an ever-changing business environment.



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## Spend Trends on Revamping Skillsets

The World Economic Forum's report projects that automation will displace approximately 1.37 million workers in the next 10 years. To reskill them to new, viable roles and desirable income would cost USD 34 billion, which is on an average USD 24,800 for every displaced worker.<sup>2</sup> In the United States, an investment of USD 4.7 billion by the private sector can only reskill 25% of the workforce, creating the possibility of a private-public partnership to lower reskilling costs and achieve economies of scale.

Automation has an adverse impact on the manufacturing industry that is composed of easily displaced, repetitive tasks. The Manufacturing Institute reports that manufacturers are set to shell out USD 26.2 billion on internal and external training programs for new

and existing workers to tackle the threat of automation. Furthermore, almost 70% of manufacturers are creating or expanding training programs; 75% report improved productivity and morale of the workforce post upskilling programs.<sup>4</sup>

Governments and companies across the globe are making upskilling and reskilling efforts. Under the SkillsFuture Initiative, Singapore's Future Economy Council aims to develop an education and training system for all its citizens regardless of age. Sweden boasts of the highest rate of re-employment with 85% of its displaced workers finding gainful employment within a year. The Government of India plans to spend USD 59 million for reskilling 400,000 IT staffers.<sup>6</sup> Retail giant Walmart trained 720,000 of its employees in two years through its Walmart Academy, which was launched in 2016.<sup>5</sup> A July 2019 press release by Amazon mentioned that the company has pledged to invest more than USD 700 million in upskilling programs for its employees across the United States.<sup>8</sup> PwC recently announced its plans for investing USD 3 billion to upskill its employees.<sup>9</sup>

Thus, as technology advances, both governments and corporations around the world realize the importance of upskilling and reskilling and are making concerted efforts to bridge the skills gap in the labor market, thereby securing the future of its workforce.



## **Upskilling and Reskilling – The Need of the Hour**

Emerging technologies of Industry 4.0 and automation, opening a wide gap between the skillset demand and the existing skillset of the workforce. The Future of Jobs report by the World Economic Forum states that 75 million jobs will be displaced by 2022 by new technologies.<sup>3</sup> A PwC study predicts that by 2020, almost 80% of all job roles will require some level of digital competency.<sup>10</sup> With more technology than the workforce can handle, almost 54% of all employees will require reskilling and upskilling by 2022.<sup>3</sup> However, getting equipped with new technical skills is not enough for job security. Workers must work on their interpersonal, soft skills to communicate and collaborate effectively with their coworkers.

A global survey jointly conducted by the Boston Consulting Group and The Network provides deep insights into the reactions of the workforce on globalization and technological changes and their attitudes towards upskilling and reskilling.





### Willingness to reskill

The willingness to adopt new skills for their current role or learn new skills for a completely different role is vital for the success of upskilling and reskilling initiatives. A worker's willingness to learn is directly proportional to their belief of whether new technology trends would affect their employment. According to the survey, 61% of the respondents think that these trends would affect their jobs; 67% of the respondents are willing to reskill under any circumstances, whereas 29% are open to reskill themselves when a serious need arises. As such, 65% of the respondents spend a significant amount of time on learning new skills every year.<sup>11</sup> The willingness to learn also varies on the kind of employment a worker has—freelancers (74%) and self-employed workers (70%) tend to spend more time on learning compared to their full-time counterparts (62%).<sup>11</sup>



### Methods of learning

The survey reported that workers lean towards self-study (63%), on-the-job training (61%), and online learning (54%), instead of traditional learning methods including conferences (36%), educational institutions (34%), and government-sponsored programs (7%).<sup>11</sup> This is enough impetus for companies across the world to invest heavily in effective upskilling and reskilling programs to safeguard their workers' interests.



### Age factor

The wave of Industry 4.0 will impact new and existing workers, from fresh graduates joining the workforce to veterans in the industry with decades of professional and technical experience, regardless of their tech-savviness. Insights from the survey showed that respondents from the age of 21 to 40 are the most willing to reskill themselves.<sup>11</sup>



### Soft Skills

Soft skills, and not just technical skills, are integral to career growth and long-term sustainability. Companies must be mindful of how they devise upskilling and reskilling programs and strike a balance between interpersonal skills and technical know-how. While some workers pursue higher education to equip themselves with in-demand skills, 46% of the IT Pro Day Survey respondents believe that interpersonal communication skills are vital for career advancement. Furthermore, public speaking (53%) and project management (56%) were cited as important factors for the same.<sup>12</sup>



## Challenges in Bridging the Skillset Gap

Despite the growing importance of reskilling the workforce, several challenges are faced in taking necessary steps to ensure sustainable upskilling and reskilling.

### **Inadequate university curriculum and faculty**

The best way to equip the workforce with current skills is to begin their education and training at the university level. Unfortunately, the curriculum in universities across the globe is inadequate to make soon-to-be graduates future-ready. Moreover, there is a dearth of experienced faculty in subjects such as Big Data, IoT, and AI to tutor university students.

### **Traditional learning and development programs**

Traditional training programs in companies are generally one-time in nature. Such programs have low absorption rates, and without continuous learning, employees are likely to forget what they were taught in such one-off courses. Further, traditional programs suffer from being inflexible in terms of pace at which they can be taken by an employee and also the medium used for content delivery, say for example, not being able to go through the course content on the move using a mobile device in an offline mode.

### **Lack of preparedness to upskill and reskill the workforce**

A McKinsey report says that only 16% of the companies surveyed feel prepared to initiate upskilling programs.<sup>13</sup> Apart from the lack of budget (41%) and management awareness (34%),—two of the main reasons—insufficient HR resources and employees' resistance to change were important factors.<sup>14</sup>

### **Unwillingness to learn new skills**

According to the survey by the Boston Consulting Group, respondents below the age of 20 and above the age of 50 were the least willing to reskill.<sup>11</sup> The former age group's unwillingness stems from the fact that they are still in school learning the skills required for a first job. The level of education is another reason that can be attributed to an unwillingness to learn new skills. Those with a higher level of education were unlikely to learn new skills because of the time and energy already invested in gaining primary knowledge.



# A Multi-Pronged Skill Development Framework

To address the barriers for upskilling and reskilling initiatives, a multi-pronged approach is required to set the ball of upskilling and reskilling rolling.



## Addressing the gap at the roots

One of the main challenges to market ready workforce is the lack of relevant courses and qualified faculty at the university level to equip students with the required skills. Companies should partner with academia to enhance the curriculum to include courses that impart relevant knowledge and skills that are in demand in the job market.



## Culture of continuous learning

Upskilling and reskilling programs should be integrated within the company culture to improve the effectiveness and efficiency of the workflow. To tackle the problems of traditional training methods, bite-sized reskilling and upskilling modules are a smart solution. The content, as a result, is easier to grasp and can be retained for a long time. Continuous learning should also focus on cross-functional skillsets. This gives employees the freedom of choice and makes them more flexible in adapting to different challenges and performing varied tasks. Furthermore, the workforce must be incentivized to push boundaries and learn new technologies and take up new project assignments. Lastly, soft skills are a vital component of an employee's overall development. Compared to technical skills, the former has a longer shelf life and must be made an integral part of the continuous learning system. Along with the holistic development of individual employees, continuous learning leads to the growth of the company.



## Senior management focus

In the digital age, acquainting oneself with new and emerging technologies is not a day-to-day activity; rather it is a strategic investment that reaps long-term benefits. Reskilling and upskilling programs should be considered as a top priority by the senior management to ensure the workforce is future ready. This is indicated in the McKinsey study wherein 66% of the executives surveyed consider upskilling and reskilling as a top-10 priority item.<sup>1</sup>





### Interventions at the hiring front

The dynamic technological environment demands the workforce be fast learners capable of quickly grasping new concepts, developing relevant skills, and educating themselves about the new technological trends in the industry. Hiring managers must look beyond the educational background of a candidate. The Infosys survey revealed that adaptability (65%) and learnability (56%) were not given much importance by many firms.<sup>14</sup> The willingness and ability to learn new skills that are in demand must take precedence over the existing skillset of the candidate while making hiring decisions.



### Value proposition for employees to upskill & reskill

Employees need to be made aware of the value of upskilling and reskilling programs. Providing incentives to employees for upskilling and reskilling will make them appreciate such initiatives, leading to improved productivity. Moreover, incentives are a part of the reskilling and upskilling investment that reaps benefits in terms of acquiring new technical know-how and cultivating a learning culture.



### Assessing & updating skill development programs

Efficient upskilling and reskilling programs are the solutions to keep pace with the ever-changing market demands. On paper, the huge financial cost of such programs would show benefits, but to evaluate the actual return on investment, the structure and content of upskilling and reskilling programs must be assessed in terms of their relevance and effectiveness. To maintain the upward progress, these programs need to be tweaked and updated as technology and skillset demands in the market evolve.



#### Addressing the gap at the roots

enhance the curriculum at the university level to teach students relevant, in-demand technical skills.



#### Culture of continuous learning

a culture of continuous learning of new skills must be adopted in the company by introducing bite-sized training sessions, cross-functional skill set training, and development of soft skills.



#### Senior management focus

management must give priority to reskilling and upskilling of the workforce.



#### Interventions at the hiring front

give equal importance to learnability and adaptability, as much as a candidate's existing educational background and skillset while hiring.



#### Value proposition for employees to upskill & reskill

incentives must be given to employees to undergo upskilling and reskilling so that they can safeguard their employment in the future.



#### Assessing and updating skill development programs

the structure and content of upskilling and reskilling programs need to update from time to time to maintain their relevance and effectiveness.



## Workforce of the Future

The wave of technological disruption has had a ripple effect in almost every industry. Artificial intelligence and automation are leading to the redundancy of various job functions. However, it has also opened a new avenue to myriad job opportunities, a majority of which require advanced skills—both technical and interpersonal—and digital competency.

For solving problems of tomorrow, companies need to look at hiring talent beyond STEM (Science, Technology, Engineering, and Mathematics) disciplines, for example, hiring candidates from liberal arts. A team with such diverse backgrounds brings in more creativity, and interpersonal.

The influx of technical jobs with new technologies has led to a skills gap within the current workforce. Companies, especially management-level executives must find ways and time to invest in bridging this gap by initiating upskilling and reskilling programs. This requires a strategic workforce plan, targeted skill development programs, and cultivating a company-wide continuous learning, upskilling, and reskilling culture that extends to educational institutions that house fresh graduates and potential employees. The upskilling and reskilling programs can be made more effective by leveraging new technologies like augmented reality, virtual reality and mixed reality. For instance, Upskill is an augmented reality platform that provides employees with smart glasses for on-the-job training.

The workforce of the future will engage in tasks that require social, emotional, cognitive, and creative skills—skills where AI and automation fall behind. Industry 4.0 is more than just a technological advancement; it is an opportunity to leverage new technologies to build an inclusive, human-centric future.



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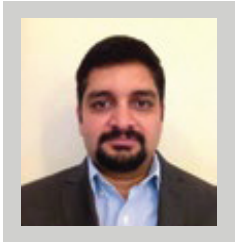
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