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Role Of Technology In Transforming Jobs

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Abstract

The evolution of workplace technology is a captivating story of innovation and adaptation. This journey showcases the positive impact of technology in the workplace and how it has fundamentally altered how we approach our professional lives. The rise of remote work and AI automation apps has pushed workplace boundaries, creating more flexible and agile environments. Everyday learning and updating to fulfil the daily demands of the global environment to sustain in the cut throat competition has become the need of the day. Technology is seen as an advancement to reduce the burden and monotony in the workplace while on the other hand it is seen as threat posed by the modern science where there is a constant fear in the minds of humans about losing their jobs anytime. AI and many other modern applications are believed to replace human work. While some sectors face job displacement, others are witnessing the emergence of entirely new career paths. This study investigates on how technology is reshaping the job market. As technology continues to shape the workplace, employers are adopting strategic approaches to ensure the effective integration of new tools. Through an analysis of current trends this article provides insight into how technology is not only changing what work looks like but also how it can contribute to more inclusive and sustainable job creation. The aim of this article is to figure out how technology is playing a critical role in present scenario of global job market.

Keywords: AI Automation, Workplace boundaries, Job market

Introduction:

The 1990s brought us the internet, email, and the first wave of mobile phones. These technologies revolutionized communication, allowing for instant messaging and remote collaboration. The concept of being “always connected” began to take shape, reducing the gap between work and personal life. Industrial automation also began to reshape various aspects of life and work, enhancing efficiency and convenience. Technology has emerged as a strong driving force bringing about a change in global workforce. From the rise of automation and artificial intelligence (AI) to the increasing dependency on cloud computing and digital platforms, technology is reshaping the culture of work. As traditional industries evolve and new sectors emerge, the transformation of jobs is becoming an inevitable consequence of technological

innovation. This shift has resulted in focussing not only for the types of skills required but also for how work is organized, distributed, and experienced by workers.

While technology has the potential to enhance productivity, create new job opportunities, and revolutionize entire industrial sector, it is also bringing challenges such as job displacement, the need for reskilling, and growing concerns about social and income status inequality. As machines are taking over monotonous jobs and performing it easier, questions are rising about future of human labour and its impact on global economy.

This article examines the pivotal role of technology in the transformation of jobs, exploring the ways in which it is reshaping employment across various sectors. As technology continues to evolve, businesses must remain more flexible to adopt the emerging needs. They must embrace advancements while balancing them with human skills like creativity and emotional intelligence. The future of work is digital and dynamic, but success lies in using technology to enhance, not replace worker potential. By adopting a strategic, human-centric approach, we can create fulfilling collaborative workplaces and enjoy all the benefits of technology.

Methodology

To explore the role of technology in transforming jobs, this article employs a secondary data approach where existing literature, research articles were reviewed and analysed to explore. Data were sourced from academic journals, government reports and other databases. The aim is to provide a comprehensive understanding of how technology is reshaping the workforce, including the changes in job structures, skill requirements, and economic implications.

Influence of Technology on jobs

With advances in machine learning, big data, artificial intelligence, and other technologies, a new generation of intelligent robots that can perform routine, repetitive, and regular production tasks requiring human judgement, problem-solving, and analytical skills has emerged. Robotic process automation technology can learn and imitate the way that workers perform repeated new tasks regarding the collecting of data, running of reports, copying of data, checking of data integrity, reading, processing, and the sending of emails, and it can play an essential role in processing large amounts of data

However, with the rise of a new round of technological innovation and revolution, high efficiency leads to the development and growth of a series of emerging industries and exerts job creation effects.

Technological progress has the effect of creating new jobs.

Companies becoming more intelligent in easing their jobs by using AI and robotics has replacing human labour simultaneously on the other side tasks get more complex by posing various new tasks and challenges. The development of digital technology has deepened and refined the division of labour, accelerated the service trend of the manufacturing industry, increased the employment share of the modern service industry and created many emerging jobs. Internet information technology reduces the distance between countries in both time and space, promotes the transnational flow of production factors, and deepens the international division of labour. The emergence of AI technology leads to the decline of a country's traditional industries and departments. Under the new changes to the division of labour, these industries and departments may develop in late-developing countries and serve to increase their employment through international labour export.

Global perspective: developed economies' experience:

Timeline of New Technology Adoption (1980s Onwards):

1980s

Introduction of personal computers, cellular phones, and early internet usage. Technologies like industrial robots and computer-controlled machines began automating tasks in manufacturing and services.

1990s

Expansion of the World Wide Web, graphical user interfaces, and e-commerce platforms. The rise of automation technologies like assembly-line robotics and financial software systems.

2000s

The proliferation of advanced computing, cloud technologies, artificial intelligence (AI), and big data analytics. Automation extended to customer service, logistics, and healthcare.

2010s-Present

AI-driven automation, machine learning, blockchain technologies, and Industry 4.0 innovations have revolutionized production processes and service delivery.

AI and its threat to the labour force across the Globe

McKinsey & Company, a global management consulting firm has stated in its report that By 2030, 14% of employees (approx. 375 million workers) will have been forced to change their career because of AI 375 million workers.

Statistics

- **\$19.9 trillion** will be pumped into the economy by 2030 due to AI (IDC Research).
- AI will contribute **3.5% to global GDP** by 2030 (IDC Research).
- **98% of business executives** see AI as a must in their firms (IDC Research).
- **70% of firms** will be using AI by 2030 (McKinsey).
- **300 million jobs** could be displaced globally by AI by 2030 (Goldman Sachs).
- **25% of routine tasks** are already robotized by AI (Goldman Sachs).
- **23% of current jobs** are expected to change by 2027 (Statista).
- **69 million new jobs** are expected to be created after the AI transition (Statista).
- **83 million jobs** are expected to be lost in the next five years due to AI (Statista).
- **46% of office and administrative tasks** are vulnerable to automation (Statista).
- AI can already automate **70% of workforce tasks** (McKinsey).
- Unemployment in Europe and the US could rise by **12 million jobs** due to AI (McKinsey).
- **83 million jobs** will be lost due to technology introduction (World Economic Forum).
- **69 million new jobs** will be created due to technology introduction (World Economic Forum).
- The green economy is expected to create **7 million jobs** (World Economic Forum).

Indian context: Technological change post-1990s reforms:

- **Dominance of Services Sector:** The services sector has been the primary driver of India's economic growth, contributing over 50% to the country's GDP. In FY24, it accounted for about 55% of the economy's total size.
- **IT and IT-enabled Services (ITeS) Boom:** India emerged as a global leader in IT and ITeS, contributing significantly to exports and employment generation. The country's share in digitally delivered services exports globally increased to 6.0% in 2023 from 4.4% in 2019.
- **Skill-intensive Growth:** The services-led growth model has favoured skilled workers, leading to a rapid demand for high-skilled labour, particularly in sectors like IT, finance, and professional services.
- **Limited Manufacturing Growth:** Unlike many East Asian economies, India's manufacturing sector has not experienced high growth rates, leading to concerns about "premature deindustrialization."
- **Job-skill Mismatch:** The services-led growth has created a disconnect between the skills demanded by the growing sectors and the skills most of the workforce possess, leading to challenges in employment generation.
- **Rapid Digitalization:** India has witnessed rapid adoption of digital technologies, with initiatives like Aadhaar, UPI, and e-governance projects transforming service delivery and financial inclusion. Services exports have played a crucial role in India's growth story, accounting for 44% of India's total exports in FY24.

Conclusion

Technology is rapidly changing and is unavoidable. Companies to sustain in the market will have to update and upskill its workforce to thrive in this new landscape. At the same time it is also important for the governments to support their economies to match their needs with the global economy by having friendly collaborations with global economies to ensure a smooth transition into the future of work.

In conclusion, digitalization can help improve management in a variety of ways. By increasing transparency and communication, improving decision-making, increasing productivity, enhancing collaboration, and increasing efficiency, digitalization can help organizations run more efficiently and effectively.

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