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**Industry 5.0: A Human Resource Perspective on Reskilling and Upskilling for the Industry**

**Kanagaraj Venusamy,**

*Research Scholar,*

*P.G. and Research Department of Management Studies,*

*Jamal Institute of Management,*

*Jamal Mohamed College,*

*Affiliated to Bharathidasan University, Trichy,*

**Dr A. Selvarani,**

*Associate Professor,*

*P.G. and Research Department of Management Studies,*

*Jamal Institute of Management,*

*Jamal Mohamed College,*

*Affiliated to Bharathidasan University, Trichy, India*

**Dr. G. Sivanesan,**

*Professor and Director,*

*P.G. and Research Department of Management Studies,*

*Jamal Institute of Management,*

*Jamal Mohamed College,*

*Affiliated to Bharathidasan University, Trichy, India*

## **Abstract**

Industry 5.0, often known as the Fifth Industrial Revolution, is changing the workplace around the world. Driven by cutting-edge technologies like big data, robotics, the Internet of Things, and artificial intelligence (AI), this era requires a workforce that is extremely talented, flexible, and nimble. Under these circumstances, reskilling and upskilling have become essential tactics for businesses to maintain their competitiveness while enabling their staff to flourish in a changing workplace. Industry 5.0 marks a transformative phase in industrial development, emphasizing the collaboration between humans and advanced technologies. As industries transition into this era, the role of human resources (HR) in facilitating reskilling and upskilling becomes critical. This review article explores the concepts of Industry 5.0, the changing nature of work, and the strategies HR can adopt to prepare the workforce for this transition.

**Keywords:** Human Resource Management, Fourth Industrial Revolution (4IR), Upskilling, Reskilling, Deskilling

## **I. INTRODUCTION**

The evolution from Industry 4.0 to Industry 5.0 signifies a paradigm shift from automation and digitization to human-centric innovation. While Industry 4.0 focused on integrating smart technologies such as artificial intelligence (AI), the Internet of Things (IoT), and big data, Industry 5.0 emphasizes harmonious collaboration between humans and machines. This shift necessitates a reevaluation of workforce skills and roles. Human Resources (HR) plays a pivotal role in preparing organizations for Industry 5.0. By focusing on reskilling and upskilling, HR can bridge the gap between current capabilities and future requirements, ensuring employees remain relevant and empowered.

## **Related Work**

Human resources are essential to an organization's performance, competitiveness, and sustainability in any industrial revolution era. The Fourth Industrial Revolution (4IR) integrates advanced technologies and the convergence of physical, digital, and biological systems, offering HR professionals opportunities and threats [5]. Thus, while Industry 4.0 puts a focus on digital transformation and highlights how process efficiency can be increased by using various digital technologies, Industry 5.0 focuses on the creative thinking skills of humans and presents the human-machine collaboration as the key to ensure industries flexibility and agility[6].

Organisations need to develop employees' skills based on organisational objectives strategically. In such a dynamic world, people require competencies in different skills, including but not limited to technological skills, self-management skills, social and cross-cultural skills, cognitive skills, entrepreneurial skills[7].

The Fourth Industrial Revolution (4IR) is rapidly transforming the world of work, presenting both challenges and opportunities for human resource (HR) management in the Global South. This study delves into the strategies and innovations that HR professionals can employ to adapt to the rapidly changing landscape and ensure the success of their organizations. Countries in the global south are deploying key human resource strategies to ensure growth and efficiency in their organization. This can be enhanced with the appropriate utilization of 4IR tools. Robots, Internet of things, machine learning are some of these 4IR tools that can help boost human resource management in the global south [8].

### **The Need for Reskilling and Upskilling**

Industry 4.0 has significantly reshaped job roles and skill requirements. Tasks traditionally performed by humans[1]-[4] are increasingly automated, while new job roles requiring technical expertise, critical thinking, and problem-solving abilities are emerging. According to a World Economic Forum report, by 2025, nearly half of all employees will need reskilling to meet evolving job demands.

- Reskilling involves training employees to take on entirely new roles that differ from their current skill sets.
- Upskilling focuses on enhancing existing skills to adapt to technological advancements in the same or similar job roles

### **Industry 5.0: Key Features and Implications**

#### **Human-Machine Collaboration**

Unlike its predecessor, Industry 5.0 places humans at the center of technological advancement. Collaborative robots (cobots) and AI systems work alongside employees, enhancing creativity and productivity.

#### **Sustainability and Ethical Considerations**

Industry 5.0 prioritizes sustainable practices and ethical decision-making, requiring a workforce capable of aligning technological advancements with environmental and social goals.

#### **Customization and Personalization**

Mass customization driven by human creativity and technological precision is a hallmark of Industry 5.0, demanding a workforce skilled in innovative problem-solving and adaptive thinking.

### **Challenges in Workforce Development**

#### **Skills Gap**

The transition to Industry 5.0 highlights a disparity between existing skills and those needed for new roles, such as AI trainers, cobot operators, and sustainability analysts.

#### **Resistance to Change**

Employees may resist adopting new technologies due to fear of redundancy or lack of confidence in their ability to adapt.

#### **Rapid Technological Advancements**

The fast pace of technological innovation complicates the identification of relevant skills and the development of effective training programs.

**Table 1- Strategies for Reskilling and Upskilling**

<b>Strategy</b>	<b>Details</b>
Skill Gap Analyses	Assess current skills, identify gaps, align with organizational goals
Tailored Training Programs	Focus on technical (AI, robotics) and soft skills (critical thinking, adaptability)
Technology in Training	Utilize VR, AR, AI-driven platforms for immersive learning experiences
Lifelong Learning	Promote culture of continuous learning, provide access to courses, mentorship, and incentives
Educational Collaborations	Partner with universities and vocational centers for aligned academic and industry programs

## **II. CONCLUSION**

As Industry 5.0 reshapes the industrial landscape, HR professionals must take proactive steps to reskill and upskill the workforce. By adopting strategic approaches and leveraging technology, organizations can ensure a

seamless transition into this new era, fostering a workforce that is both empowered and future-ready.

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