ZIBELINE INTERNATIONAL™ PUBLISHING

ISSN: 2773-6202 (Online)
CODEN: JTIOCC

Journal of Technology & Innovation
(JTIN)

DOI: http://doi.org/10.26480/jtin.01.2025.21.22

SHORT COMMUNICATION

PERCEPTION OF ROBOT IN WORK PLACE

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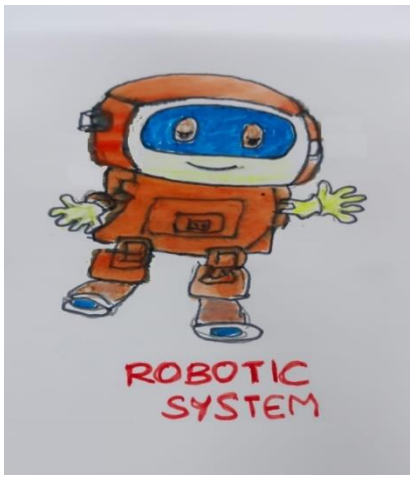
1. INTRODUCTION

A robot is a machine that can act like a human by input program and can be able to carry out a series of complex actions at one time. Robot defines the tasks of humans whether it is physical or virtual can easily be handled by them and it is also known as bots. They are technically controlled by some external device or control can be implanted within themselves.

Robotic Systems may be described as providing artificial intelligence assistance and required knowledge by interacting with the whole surroundings including human beings and machinery in any form.



Source By:IRF

2. DIFFERENT KINDS OF ROBOTIC SYSTEMS

The three types of Robotic Systems are:

2.1 Industrial Robots

Industrial robots are machines utilized to perform particular assignments in a manufacturing plant or production environment, frequently controlled by computer programs. There are three primary sorts: Cartesian robots, round and hollow robots, and SCARA robots. Cartesian robots work on the Cartesian facilitate system and are utilized for assignments such as welding, manufacturing, and fabric taking care of. Round and hollow robots are planned for circular tasks, whereas SCARA robots have a restricted extend of movement.

2.2 Service Robots

A service robot is a machine outlined to perform tasks that are not appropriate for people, such as transporting patients to hospitals, performing tedious assignments in industrial facilities, making a difference customers discover products in stores, and performing tasks around the home.

2.3 Research Robots

Robots are progressively being utilized in research laboratories in fields such as pharmaceutical, biology and chemistry. There are three primary sorts: inaccessible bots, independent bots, and collaborative bots. Remotely controlled robots are controlled by a human administrator, whereas independent robots work independently without human mediation. Collaborative robots work nearby people to total manufacturing or gathering tasks. Robotic frameworks are classified into remotely worked, semi-autonomous, and autonomous frameworks.

3. COMPARATIVE STUDY BETWEEN HUMANS AND ROBOT

Source By:Strengths of AI and Humans: A Comparative Analysis

This study compared human and robot performance in simple assembly operations. Carrying out time studies and cost analyses on the implementation of automated workstations. 10 male volunteers completed 100 work cycles. It turns out that robots don't learn on the job and can be slower. However, from a security perspective, robots may be qualified to perform certain tasks.

Humanoid robots face physical limitations that limit their ability to move, such as limited rotational joints and limited range of motion. These robots are designed to mimic a human-like build and structure, often with arms and legs, similar to the structure of human legs. However, existing devices and actuators often cannot produce the same kinematics and force intensity as human muscles. Understanding these differences can provide insight into improving the flexibility and versatility of humanoid robots influenced by the human body.

4. ADVANTAGES AND DISADVANTAGES OF ROBOTS

Robotic automation brings benefits, but also raises concerns about modifying existing production lines. This overview describes the advantages and disadvantages of robotic automation.

Quick Response Code	Access this article online	
	Website: www.jtin.com.my	**DOI:** 10.26480/jtin.01.2025.21.22

Cite The Article: Adil Hakeem Khan, Sheeba Shamim (2025). Perception of Robot in Work Place.
Journal of Technology & Innovation, 5(1): 21-22.

4.1 Advantages are:

- Robotic automation eliminates lunchbreaks, holidays, sick leave, and shift time, ensuring cost-effectiveness. It can work on a repetitive cycle, eliminating RSI(Repetitive strain injury) risk.
- This increases production at lower costs, with immediate recovery and exponential gains for manufacturers.
- Robotic automation can improve quality assurance by reducing alertness (the natural decline in attention resulting from repetitive tasks). This can lead to costly mistakes and personal injury.
- Robotic automation eliminates these risks by producing and controlling goods precisely to the required standards. This results in higher-quality products and creates new opportunities for business development.
- Robotic automation can increase productivity by managing repetitive tasks. This gives employees the opportunity to expand their skills and work in other areas, creating a better work environment.
- This results in improved energy levels, improved product quality and improved customer satisfaction. The Productivity Calculator can be downloaded from the Resources section of the website.
- Robotic automation can help people working in hazardous environments, such as high or low temperatures, to operate without injury. It reduces material waste and increases worker turnover in production areas, thus reducing unnecessary risks.

4.2 Disadvantages are:

- Concerns about job losses to robotic automation are understandable, but inaccurate
- The initial investment cost of robotic automation is a major barrier for businesses. A full business case is needed to demonstrate the potential returns of this technology.
- While returns can be great, cash flow must be sustainable. Instalment plans can make financial management easier. Factors such as increased productivity, reduced defects, and intangible benefits must also be considered.
- Manufacturers are struggling to find qualified employees for specialized positions, especially in automation.
- Robots require programming and operating knowledge, but automation companies can help with installation and setup so employees can learn and adapt to controlling robots over the long term.

5. Loss of Job while Using Robot in Place of Human at Work Place

If people are replaced by robots, there will be such a issue in the entire world that it will be exceptionally difficult to adapt. If individuals do not earn cash at that point how will they be able to support their families.That is why poverty will worsen. This is not possible everywhere. What do we say in developing countries like India? If robots start working in place of humans, our country will never be able to be a developed country.Robots are replacing humans in the workplace, with varying impacts by industry. The auto industry is adopting robots more frequently than other industries, affecting low- and middle-income workers. But automation can also have a positive impact on productivity by simplifying tasks or creating new jobs. Robots create a greater substitution effect, displacing high-wage jobs while making businesses more efficient and productive. Some areas are the most affected by this combination.

6. Conclusion

Robots have the potential to replace humans in the workplace, making it unfair for employers to choose robotic solutions over their own. A future in which robots become autonomous remains in the realm of science fiction. Those who belong to the middle class study hard, get jobs after passing exams, seek skills and knowledge, pay thousands of rupees for training and in return they will be kicked out and cannot even devote to their families. Their standard of living, they cannot survive.At last the use of Robots in hazardous environments.

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A Comparative Analysis

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