# Chapter 4
# Influence of Intelligent Automation on Industries and Daily Life

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## ABSTRACT

*Automation is an indivisible part of recent computer applications. It reduces human efforts, operational cost, and produces results effectively. There are many applications where 'automation' plays a very crucial role like healthcare, e-governance services, education, logistics, and manufacturing. Recent technologies like artificial intelligence (AI), machine learning (ML), and cloud computing play vital roles in developing automated applications. Data is at center stage in these automated applications. Therefore, one can focus on 'data', i.e., integrating data from variety of sources, handling the missing data, and processing it to get the relevant data. Classification and clustering methods can be applied to get better results. As discussed earlier, 'automation' must benefit the end users in terms of time and operational cost. Being researchers, the aim should be on developing the 'ease of living' applications. With the help of recent technologies, 'paperless' applications can be developed.*

## 1. INTRODUCTION

*Automation* with the help of recent AI, ML and other technologies has gained popularity in every sector. There are many advantages of automation as it significantly *saves time and efforts of the users*. It is possible to introduce the automation in routine tasks of the organizations. Organizations can maintain the customer and employee retention rate as automation saves more time & providing better quality services. *Management and employees can have maximum time for better planning, management of the routine tasks*. With the help of automation one can optimize the routine tasks to increase the *throughput (output ratio)*. As compared to the manual approach, it became easier to streamline the tasks contributing in the overall growth of organization. With the help of recent technologies, intelligent automation can provide significant and accurate data used in better decision making. Hence, many organizations are providing training of intelligent automation to their employees. Models adopted by many organizations

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are based on *learning, adapting, and taking better decisions. Being human it is quite difficult to process the large volume of data (big data) but automated tasks (software robots) can easily process it within less time with higher accuracy and better insights.*

There are many advantages of intelligent automation like, developing an efficient model, managing the risks, savings the cost, and higher scalability, better experiences, improvising the strategic decisions, and ultimately maximizing the revenue. *There are many advantages of the 'intelligent automation' in the e-services - it doesn't require citizens to wait for the approval long time. Concerned authorities can sanction the application if it fulfills all the requirements. However, if everything is digitized and automated it becomes necessary to provide 'security' to the personal data (maintaining the privacy).* Automated fetching and storing of the data, automatically processing the documents, giving automatic responses to the customers, automatic sanctioning the insurances and medi-claims (medical claims), and automated e-tax filing are the few recent trends of intelligent automation.

## 1.1 Components of Intelligent Automation (IA)

- Artificial Intelligence (AI)
- Robotics Process Automation (RPA)
- Natural Language Processing (NLP)
- Character Recognition
- Text Mining
- Machine Learning (ML)

A key challenge in *intelligent automation* is 'change management' i.e. training employees to understand the automation. Modifying the existing organizational structure, infrastructure and automating the routine tasks. *However improvising the applied automation is taking feedbacks from the stake holders constantly. If required, based on those feedbacks, one can modify the automated tasks in the next iterations.*

## 2. LITERATURE REVIEW

*Automation eases the human efforts and operational costs.* Authors (Tuomi & Ascenção, 2023) proposed a research work understanding the 'influence' of the automation. This research work emphasizes on the 'hospitality' sector automating the various routine tasks. Research work addresses the gaps to enhance the automation. Authors have identified different 'frontline' and 'service jobs' of the hospitality industry. To apply the automation in order to enhance the services, a proposed study interviewed '*n*' people. 'Data' size is increasing due to increasing size of the users and applications. Everything is in the 'digitized' format. *However, protecting this large volume of data is necessary and there are always possibilities of cyber threats to various industries.* Author (Sarker, 2023) have proposed a research study addressing the cyber anomalies and cyber-attacks. Author has discussed the use of artificial intelligence (AI) and machine learning (ML) for better solutions. AI and ML based applications provides dynamic solutions, requires less human intervention, and automates various tasks. These AI and ML based solutions help detecting, preventing the cyber-attacks and automatically gain the insights from cyber data.

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