Chapter 2
Industrial Automation and Its Impact on Manufacturing Industries

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ABSTRACT

Industries in recent days has been facing several issues including a dearth of labor, moribund joblessness rates, and towering labor turnover. This is projected to increase further in the upcoming days with the rise of the aged population. All these challenges can be addressed by the technology called industry automation. But there is an acuity that industrial automation will lead to job losses. However, in ingenious automation technology, lots of positive outputs can be achieved such as
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higher productivity and enhancement in yield. The role of automation in health and safety is awesome, but the brunt of this technology on jobs and efficiency worldwide has not been studied fully. In addition, automation technology safeguards the workers from highly dangerous work zones such as mines, space research, and underwater research. Thus, industrial automation is ready to serve humankind and business in various ways. This has been explained in this chapter.

INTRODUCTION

The ultimate objective of any business is to maximize the profit by minimizing the operating cost and every organization strives for the same; otherwise, it would go out of the business. On the other side manufacturing industries are facing lots of challenges right from the shortage of workforce, high labor turnover, mishaps, and injuries. A yearly industry research statement reveals that the manufacturing industries have to face two most important challenges, one is fulfilling customers' willingness and the other is answering the concern over the stern shortage of the required skills. According to the report it is also expected that around 3.5 million industrialized jobs will require to be packed and the deficiency would be almost 2 million by 2025 (Scott Technology Ltd, 2019). In the meantime, the haste of advancements in technology and the availability of more alternatives have stimulated consumers' expectations to rise at a brisk rate. Moreover, customers in each business wish to obtain good quality products, quicker delivery, better customer service and all these should be available while paying comparatively less for these services. Countries like North America, South Korea, Europe, and Japan and industries like meat and food processing and fruit growing are gotten pretentious more than other sectors due to the shortage of labor. As a consequence, automation technology is started to use progressively more in the production and manufacturing process. Current chapter sum-up the outcomes of the latest investigations in a comprehensive manner, and provides some real-world paradigms, relevance, and impact of industrial automation. Further, the chapter has designed to inform the challenges faced by the manufacturing industries due to labor shortage, the advantages of industrial automation, and the initiatives required to take to implement the automation technology to transform the manufacturing sector into a successful one. The other parts of this chapter explain the present labor shortage situation worldwide and estimation of the aging populations, automation and its brunt on jobs, efficiency, and profitability, succumb and excellence, health and safety of the workforce, and the initiatives required for promoting automation across industries (Nigel wright, 2021).

Eco-Friendly Construction

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