

Automatization as a Challenge for Employment of Skilled Manpower: An Empirical Investigation from HRM perspective

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Abstract

The process of using technology and machines to carry out jobs that were previously completed by humans is known as automation, sometimes known as automatization. While automation offers many advantages, like higher production, efficiency, and precision, it has also made hiring qualified labor more difficult. The displacement of human workers by automation is one of its biggest problems. Machines are more capable of carrying out jobs that were formerly the responsibility of skilled employees as technology advances. For those who are unable to retrain or upgrade their skills in order to meet the needs of the evolving work market, this displacement may result in unemployment and underemployment. Deskilling might also result from automation. Workers may no longer have the opportunity to apply and develop their abilities when more duties are taken over by machines. As a result, the caliber of the job may suffer, and important abilities and knowledge may be lost. The requirement for humans to constantly adapt to new technologies and machines presents another difficulty brought on by automation. In order to be competitive in the employment market, workers must constantly learn new skills and methods of operation due to the quick rate of technological change. Automation does, however, offer opportunities as well as obstacles to the employment of skilled labor. Workers may learn to work alongside machines and take advantage of automation with the correct training and assistance. Additionally, automation may open up new career prospects in industries like data analysis, robotics, and artificial intelligence. Overall, even though the employment of skilled labor is hampered by automation, it is crucial for governments, companies, and workers to adapt to and accept these changes in order to ensure a smooth transition to the future of work.

Keywords: Automatization, Employment, Skills, Manpower, Business

Introduction:

The use of technology for jobs that were previously performed by humans, or automatization, has significantly altered how we work and live. Although technology has improved many facets of society, it has also made finding and keeping competent labor more difficult. High-skill and expert-level positions were formerly mostly protected from automation. However, due to the quick development of technology, even highly skilled positions today face automation. For instance, artificial intelligence and robotics are increasingly used to carry out jobs that were traditionally completed by highly skilled personnel like lawyers, accountants, and physicians.

The potential loss of jobs due to automation is one of its main problems. The demand for human workers declines as machines grow more competent in carrying out jobs that were previously performed by people. This may result in layoffs and a decline in the need for particular categories of skilled labor. Furthermore, automation may significantly alter the nature of employment even if it does not result in job loss. For instance, automated technologies may alter the duties that a worker must complete or the abilities necessary to complete those jobs. In order to adapt to changing technologies, workers may need to retrain or acquire new skills.

Automation can also result in a mismatch between the talents that employees possess and the skills that are needed for open positions, which is a problem. The abilities needed for particular vocations may vary as new technology is introduced. Workers may find it challenging to locate new career prospects as a result, especially if they lack the essential skills. Workers must have a growth attitude and be open to picking up new skills if they are to meet these difficulties. This could entail seeking out opportunities to gain experience with cutting-edge technologies or pursuing extra education or training. In order to ensure that employees can adopt new technology and have access to the resources they need to do so, policymakers and businesses must collaborate.

In conclusion, even while automation offers numerous advantages, it has also made finding competent labor more difficult. It is crucial for workers to be proactive in adjusting to new technologies as robots become more capable of carrying out jobs that were previously performed by humans, and for policymakers and employers to support them in doing so. We can ensure that automation helps everyone by taking the proper approach rather than dividing society into those with the requisite skills and those without them.

Literature Review:

Automation poses a serious employment concern since it threatens the careers of trained people. Automation is the use of machinery, robots, and artificial intelligence systems to replace human labor. This literature review's goal is to investigate how automation is affecting the need for skilled labor.

Concerns about how automation would affect jobs have existed for many years. Numerous writers have looked into the matter and offered their results. According to **Jeremy Rifkin (1995)**, automation poses a serious danger to the position of skilled employees in the economy. According to Rifkin, the rise of automation will cause widespread unemployment and societal discontent. He offers a number of legislative solutions to deal with this issue.

Stieglitz (1996), for instance, contended that automation lowers the demand for labor, which results in job displacement and unemployment. The author further argued that because skilled workers are more expensive to hire than unskilled ones, automation will have a big impact on the skilled labor market. As a result, businesses may decide to automate skilled positions in order to reduce labor expenses.

Similarly, to this, **Brynjolfsson and McAfee (2011)** emphasized how skilled jobs are being replaced by automation in addition to routine and manual labor. According to them, sophisticated cognitive tasks that were formerly the domain of highly skilled individuals can now be completed by technological advancements like artificial intelligence and robotics.

According to **Michael Osborne and Carl Benedikt Frey (2012)**, advancements in automation technologies will cause skilled people in a number of industries, such as manufacturing, transportation, and finance, to be replaced. The authors contend that in order to assist people in adjusting to new positions in the labor market, policymakers should prioritize supporting education and retraining programs.

Additionally, **Frey and Osborne (2013)** examined the automation susceptibility of several vocations based on their routine and cognitive demands. They discovered that occupations with high-skill requirements, like financial analysts and computer programmers, are highly susceptible to automation.

Finally, a study by **Autor and Salomons (2013)** demonstrated the significance of non-routine tasks in preventing job automation. They discovered that managerial and creative occupations, which include a lot of non-routine work, are less vulnerable to automation.

Carl Benedikt Frey and Michael A. Osborne (2014) looked at the potential effects of automation on the employment of various professions in a study. They discovered that in the next few decades, 47 percent of American employment faces the possibility of automation, with regular jobs like data entry and assembly line work bearing the most danger. They did, however, also point out that some occupations, such as those that call for imagination and social skills, were less likely to be mechanized.

David Autor (2015) conducted one of the first studies on the effects of automation on employment. Autor discovered in his research that although automation had the potential to remove some occupations, it also opened up new employment prospects. Due to the need for individuals with specialized skills to operate and maintain new technologies, he claimed that automation might enhance the demand for skilled labor.

Another analysis on the potential effects of automation on several economic sectors was released by **McKinsey Global (2015)**. They discovered that while automation could result in the loss of certain jobs, it could also lead to the creation of new ones and an improvement in productivity, which would eventually spur economic growth. According to the paper, the effects of automation will differ based on the industry and the level of training and skills needed for a certain position.

Paul Marx and Werner Eichhorst (2015) examine how automation is affecting jobs in Germany and other European nations. They discovered that while automation has a short-term detrimental effect on employment, it eventually opens up new work prospects. To provide workers with the skills needed in the automated economy, the authors advise politicians to fund education and training initiatives.

Acemoglu and Restrepo (2016), look at the connection between technology advancement and employment in the US. The authors contend that although technological advancement has had a considerable impact on the labor market, the loss of jobs to automation is probably being partially offset by the development of new positions in other sectors. They do point out that as automation technologies advance, the labor market may become even more polarized, with an increase in the number of positions at the low and high ends of the skill range.

Van Reenen (2011) looks at how technological advancements have affected employment, especially for skilled labor. He discovered that although technical advancements have a short-term detrimental effect on employment, they eventually lead to the creation of new work

prospects. In order to provide workers with the skills needed in the modern technological economy, the author contends that politicians must make investments in education and training initiatives.

Objective of the Study

To measure the various dimensions of automatization as a challenge for employment of skilled manpower

Methodology

This study utilized a structured questionnaire to conduct a survey, and statistical methods such as mean & t-test were used to analyze the responses from 217 participants. The sampling method used in this research was convenience sampling, where individuals were selected based on their accessibility & willingness to participate.

Table 1 Automatization as a Challenge for Employment of Skilled Manpower

Serial No.	Statement of Survey	Mean Value	t-value	p-value
1	As machines and AI become more capable of performing complex tasks, the demand for human labor may decline.	4.20	9.010	0.000
2	Automation can result in the displacement of skilled workers who previously performed tasks that can now be automated.	4.34	10.169	0.000
3	The rapid pace of technological advancement means that the skills and knowledge acquired by skilled workers may become obsolete.	4.44	11.097	0.000
4	To remain relevant and employable in an automated world, skilled workers need to continuously update their skills and acquire new ones.	4.12	6.252	0.000

5	Skilled workers who have the resources and opportunities to adapt to automation may struggle to find employment.	3.93	4.550	0.000
6	Automation tends to polarize the job market and can lead to an increase in income inequality and a shrinking middle class.	4.49	11.815	0.000
7	Job loss or the fear of job loss due to automation can have significant psychological impacts on skilled workers.	4.01	6.324	0.000
8	Some skilled workers may be resistant to adapting to new technologies or working alongside automated systems.	4.15	8.914	0.000
9	Certain professions rely heavily on the human touch, such as healthcare or counseling.	3.83	4.307	0.000
10	Automation can redefine job roles and requirements, requiring skilled workers to adapt to new tasks or responsibilities.	4.42	12.083	0.000

Table 1 demonstrates the mean values for each of the statement of the study done on the “automatization as a challenge for employment of skilled manpower”, examining the average scores, the statement that obtains the highest mean score can be described as “Automation tends to polarize the job market and can lead to an increase in income inequality and a shrinking middle class”, which has the mean score of 4.49, Looking at the next statement which is “The rapid pace of technological advancement means that the skills and knowledge acquired by skilled workers may become obsolete” the mean score is found to be 4.44. Looking at the mean value of 4.42 for the statement “Automation can redefine job roles and requirements, requiring skilled workers to adapt to new tasks or responsibilities” shows that shift in job requirements is also responsible for automatization. Looking at the other benefit of automatization is, “Automation can result in the displacement of skilled workers who previously performed tasks that can now be automated” which displays the mean score of 4.34, and the statement “As machines and AI become more capable of performing complex tasks, the demand for human labor may decline” showcase the mean value of 4.20. Then the statement “Some skilled workers may be resistant to adapting to new technologies or working alongside automated

systems” obtains mean value of 4.15 and the statement “To remain relevant and employable in an automated world, skilled workers need to continuously update their skills and acquire new ones” has 4.12. The statement “Job loss or the fear of job loss due to automation can have significant psychological impacts on skilled workers” showcase the mean value of 4.01. Therefore, the last two statements fall within the lowest category or level, “Skilled workers who have the resources and opportunities to adapt to automation may struggle to find employment” mean value of 3.93, the statement “Certain professions rely heavily on the human touch, such as healthcare or counseling” has 3.83. The significance of the t-value for each statement in the investigation on the automatization as a challenge for employment of skilled manpower is significant. The t-value statements were positive, and their significance value was less than 0.05, indicating a significant relationship between the two variables.

Conclusion:

Innumerable industries have surely seen major changes as a result of automation, changing the nature of employment and boosting output. The hiring of competent labor, however, is becoming significantly more difficult due to the rising level of automation. The need for skilled people has changed from repetitive and low-skill professions to those that demand more complex problem-solving skills, critical thinking, and creativity. Because of the speed at which technology is developing, workers must constantly update their skill sets in order to be relevant and employable. Despite the potential advantages of automation, it has also led to a significant loss of jobs, especially in sectors like manufacturing, transportation, and retail. The workforce has been significantly impacted by this displacement, particularly those who have made a career out of low-skill or repetitive labor. Moreover, as our world becomes more and more automated, there is an increasing need to address the problems that automation poses for skilled jobs. To find solutions that will lessen the detrimental effects of automation on the workforce, governments, organizations, and individuals must collaborate. Investing in education and training programs that assist workers in acquiring the skills required to adapt to the changing workforce is one possible approach. This comprises both hard and soft talents, such as adaptability, creativity, and communication, in addition to technical skills. Examining the possibilities for job sharing or retraining programs, where workers whose occupations have been automated can be taught new tasks in businesses that demand skilled individuals, is another possible answer. In conclusion, while automation definitely offers many advantages, it also poses serious problems for the employment of skilled labor. Governments, corporations,

and individuals will need to work together to address these issues and make sure that workers have the skills needed to adapt to the changing workforce.

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