International Journal of Early Childhood Special Education (INT-JECSE)
DOI: 10.48047/intjecse/V14I6.385 ISSN: 1308-5581 Vol 14, Issue 06 2022

THE IMPACT OF AUTOMATION ON THE JOB MARKET

Gaurav Jyoti,
Asst. Professor, Department of Commerce, Graphic Era Hill University,
Dehradun Uttarakhand India

Abstract
Many more employment are created by automation than are lost to it. Since the beginning of the Industrial Revolution, concerns about machines taking over human jobs have persisted, and those concerns have only grown in recent decades due to the increased prevalence of automation. This paper investigates whether or not high-skilled and low-skilled people react differently to automation in the workplace in terms of job satisfaction. The writers will reach the conclusion that automation can improve the lives of workers and will demand that companies with a commitment to CSR train their employees for the future of work. Anxieties about job loss and hopes that CSR will secure future employment opportunities are explored in a study of business majors. The findings suggest that in recent years, Forty percent of the working population is worried that their employment is at risk due to industrial automation.
Keywords: Robot, Automation, Job, Labor, Sector

INTRODUCTION

Since the beginning of the Industrial Revolution, concerns about machines taking over human jobs have persisted, and those concerns have only grown in recent decades due to the increased prevalence of automation. The use of automation, which has been around for centuries, has exploded in numerous sectors, including manufacturing, transportation, healthcare, and retail, in recent years. More productivity, efficiency, and even quality and safety can all result from implementing automation. It could have both positive and negative effects on economic growth and employment opportunities. The rise of automation poses risks of job loss, wealth disparity, and technological reliance. If you want to make smart choices about your education, training, and career, you need to know how automation will affect the labor market. In this post, we'll look at the pros and cons of automation in the workplace.

The term "automation" refers to the process of using machinery to replace human labor. Automatic doors, self-checkout terminals, and other mechanized conveniences to more complicated systems like robotics and AI are all examples of what this term might allude to. Many sectors, including manufacturing, transportation, and healthcare, can benefit from automation's ability to increase efficiency, accuracy, and production. Deep space exploration and operating in hazardous conditions are two examples of situations where automation can be used to take over for people. Automation can be implemented in software, hardware, or a hybrid of the two. There are about as many new jobs generated as there are lost due to automation. Workers who get instruction on how to operate equipment are more productive than those who do not; this reduces the cost of production, which in turn reduces prices for customers. As a result, consumer spending rises, leading to the creation of new job openings.

LITERATURE REVIEW

Dodel, Mati &Mesch, Gustavo (2020) Concerns about technological unemployment, the result of automation in the job sector, have grown in recent years. Particular worries center on the general trend of falling salaries and rising unemployment rates in regular activities. Despite the lack of data supporting predictions of widespread joblessness, these worries are of paramount importance due to their social and political ramifications. The purpose of this research is to determine what factors are associated with individuals' expectations of job security, job loss, and salary loss as a result of technological advances. We analyzed secondary data from a poll of Americans conducted by the Pew Research Center in 2017. According to the findings, workers whose jobs need them to perform physical labor have a more pessimistic perspective of the impact of technology on their professions than those whose jobs require them to perform management or analytical duties. Young workers who are well off financially and educationally and who use the Internet virtually frequently were more

optimistic about the effects of technology on the workplace. Unemployment and underemployment due to technological factors were linked to older age, lower income, minority status, and apprehension about the disruptive nature of new digital technology in the workplace. The results support the selfish hypothesis about technology's impact on low-income communities. The results' potential applications are discussed.

Šottník, Ľubomír (2018) This master's thesis examines the social effects of automation on the structure of the labor market and the industries affected. The purpose of this master's thesis is to investigate the potential negative consequences of automation, with special focus on the issue of widespread unemployment. The negative repercussions of automation are analyzed, along with potential state responses, in the master's thesis. This master's thesis analyzes potential approaches to improving education and providing a universal basic income. The master's thesis discusses the effects of automation on society and examines different potential futures for humankind. Because of the unpredictability of a subject as complicated as automation, the text actively avoids making any predictions about the future. The final section of the master's thesis examines the existing situation in the Slovak Republic and how well it is prepared for the possible adverse impacts of automation.

Im, Zhen & Mayer, Nonna&Palier, Bruno &Rovny, Jan (2019) This research investigates how concern about automation can affect voting behavior in 11 nations throughout Western Europe. While previous research has focused on the economic effects of automation on the labor market, we take a more political approach. We also expand upon prior research linking potential job losses to sympathy for far-right groups. We contend that the fear of automation will lead more people to vote for far-right parties. They are more susceptible to the radical right's story, which emphasizes the danger while also offering solutions.

Venaik, Anita (2018) The goal of this study is to examine how the proliferation of intelligent machines is changing our culture. Job insecurity and its contributors are the primary subject of this investigation. The report makes a number of recommendations for key mitigation techniques to lessen the adverse effects of automation, such as rising crime rates, volatile stock markets, and general economic instability. It also explores the many ways in which AI may be made socially beneficial in the long run.

Malik, Nishtha& Tripathi, Shalini & Kar, Arpan & Gupta, Shivam (2021) This research aims to provide a more nuanced understanding of the pros and cons associated with AI adoption and the development of technostress from the perspective of the workforce. It deconstructs the difficulties in training new employees that have arisen with the advent of Industry 4.0. Information security, data privacy, drastic changes emerging from digital transformations, and employment danger and instability are all identified as major negative effects of AI adoption. The subsequent variables in the hierarchy of beneficial effects include freedom and independence at work, originality and invention, and improved productivity. Workload, job uncertainty, and complexity were found to be additional contributors to employee technostress. Existing job profiles are shifting due to the information economy and technological interventions, necessitating new skill sets and technological fluency. Therefore, businesses should implement strategic workforce development methods like training and knowledge management to improve employee performance. Training programs that effectively instill the necessary skills should make use of virtual reality and other specialized tools. Employees also require help managing the positive and negative results of their changing socio-technical connections.

RESEARCH METHODOLOGY

Research Study

In order to collect data for this case study, a questionnaire was sent out through email to all business majors enrolled in Spring 2021 courses at a small private university. Did anyone worry that they will be laid off? We adapted questions from other research on how people felt about automation and jobs, and we used some questions from Pew Research that had been used before. Students also wanted to know if companies might be held responsible for terminating employees' contracts. The views of students were surveyed using SurveyMonkey, and a phenomenological method was employed to analyze the results. Study participants' answers to the survey question "How satisfied are you with your job?" are used to calculate the job satisfaction variable. On a scale from 1 (very unsatisfied) to 5 (very satisfied), respondents rate how satisfied they are with the survey overall. The worry of being replaced is the major variable in the explanation.

DATA ANALYSIS

Table 1: Descriptive statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Job satisfaction*	10,051	3.99	0.84	1.00	5.00
Machine replacement	10,051	0.40	0.49	0.00	1.00
Union membership	10,051	0.69	0.46	0.00	1.00
Age	10,051	46.44	11.67	19.00	68.00
Income scale	10,051	4.81	1.81	1.00	9.00
Women	10,051	0.52	0.50	0.00	1.00
University degree	10,051	0.56	0.50	0.00	1.00
Working in industry	10,051	0.08	0.26	0.00	1.00
Robot exposure	10,051	0.06	0.03	0.00	0.20
Log(GDP per capita)	10,051	12.89	0.53	12.14	13.69
Tertiary education (share of population)	10,051	43.81	6.68	35.5	54.3
Business building broadband infrastructure availability	10,051	0.74	0.14	0.56	0.97
Log(population)	10,051	14.09	0.20	13.74	14.33
Unemployment benefit recipients (share of population)	10,051	4.34	0.45	3.41	5.12
Share of big industrial companies	10,051	10.72	1.20	8.05	12.61

To evaluate the influence of industrial robots on local labor markets, we use a dataset that monitors robot stock and deliveries in industrial companies yearly since 1993. According to the IFR, industrial robots are described as "automatically controlled, reprogrammable multipurpose [stationary or mobile machine]." According to this definition, industrial robots are unmanned machines that can do tasks without assistance from a human worker. Information on robot stocks and shipments from 1993 to 2017 is available in the IFR, and it can be sorted in many ways according on the user's interests. IFR expects an annual growth in operational stock of 9%, which is used to estimate robot stock for 2018 and 2019. Recent studies have used IFR data to examine how automation affects employment, earnings, and workers' well-being.

We looked at the 10,051 workers who filled out our poll to see if they were worried about being replaced by robots. Table 2 shows that the percentage of people who are "very concerned" about a change increasing from 5% in the next three months to 38% after three years.

Table 2:Do you worry that automation will lead to a drop in the number of available jobs?

	Not Concerned	Somewhat Concerned	Concerned	Very Concerned
In the next 3 months	67%	17%	11%	5%
In the next 6 months	54%	28%	14%	2%
In the next year	35%	40%	23%	2%
In 2 years	27%	34%	29%	10%
In 3 years	21.0%	29%	33%	17%
After 3 years	12%	12%	39%	38%

The vast majority of respondents (see Table 3) responded that employers would be responsible for helping workers in the event of automation.

Table 3: Table 3: To what extent do you believe businesses are accountable for ensuring employment of workers as automation becomes a possibility?

	Not Responsible	Somewhat Responsible	Responsible
Training	6%	33%	61%
Internal Transfer	2%	47%	51%
Job Placement	7%	36%	57%

Respondents were asked about their thoughts on the prospect of computers taking over their work. Workers in the fast-food industry were shown to be more vulnerable than those in any other industry (Table 4), while nurses were found to be the least vulnerable.

Table 4:Which of the following occupations do you believe computers and robots will eventually replace?

	Not at all likely	Not very likely	Somewhat likely	Very likely
Fast food worker	2%	3%	37%	56%
Insurance claims processor	6%	38%	37%	19%
Legal worker	9%	51%	36%	4%
Construction worker	15%	37%	36%	12%
Own job or profession	23.0%	50%	18%	9%
Nurse	22%	48%	28%	2%

CONCLUSION

We are getting closer to the predicted "technological unemployment" of 2030 as a result of productivity advances that allow us to maintain our current standard of living via automation. The findings suggest that in the last few years, Industrial automation has raised concerns about the future of employment among currently working individuals, with the impact being greater for low-skilled individuals. Furthermore, Our findings show that concern about future replacement does negatively affect present-day job satisfaction, and that this effect is most pronounced among low-skilled employees who undertake routine-based jobs and are therefore more susceptible to the hazards of automation. The nature of labor is changing as a result of constant improvements in automation technologies like artificial intelligence, which may have varying effects on different demographics. Automation will continue to improve professionals' non-routine duties while also replacing low-level, regular jobs. Possible replacements include benefit incentives for lifelong learning, retraining, and volunteering. As time goes on, business students get a more nuanced understanding of automation's potential impact on the labor market. Automation is not a problem for the next three to six months, but it becomes more of a worry over the next year, two years, and three years into the future of work.

REFERENCES

1. Dodel, Mati &Mesch, Gustavo. (2020). Perceptions about the impact of automation in the workplace. Information, Communication & Society. 23. 1-16. 10.1080/1369118X.2020.1716043.
2. Šottník, Ľubomír. (2018). The impact of automation on the structure of the labor market and the analysis of the social consequences of this process Vplyvautomatizácienaštruktúrupracovnéhotrhuananalýzasociálnychdôsledkovtohtoprocesu.
3. Im, Zhen & Mayer, Nonna&Palier, Bruno &Rovny, Jan. (2019). The "losers of automation": A reservoir of votes for the radical right?. Research & Politics. 6. 205316801882239. 10.1177/2053168018822395.
4. Venaik, Anita. (2018). An Impact on Sustainable Development Due to Rise of the Automation and Artificial Intelligence. International Journal of Business Management & Research. 8. 23-38. 10.24247/ijbmroct20182.
5. Malik, Nishtha& Tripathi, Shalini & Kar, Arpan & Gupta, Shivam. (2021). Impact of Artificial Intelligence on Employees working in Industry 4.0 Led Organizations. International Journal of Manpower. 10.1108/IJM-03-2021-0173.
6. K. J. Delaney. (2017, Feb. 17). The robot that takes your job should pay taxes says Bill Gates. Quartz. [Online]. Available: https://qz .com/911968/bill-gates-the-robot-that-takesyour-job-should-pay-taxes/
7. G. Graetz and G. Michaels, "Robots at work," Centre for Economic Policy Res., London, UK, Tech. Rep. DP10477, 2015.
8. Anderson, M. (October, 2017). 6 key findings on how Americans see the rise of automation. Pew Research Center. Retrieved from http://www.pewresearch.org/fact-tank/2017/10/04/6-key-findings-on-how-americans-see-the-rise-of-automation/
9. Jahn, U. (2017). Calming fears about automation. Modern Machine Shop. Retrieved from https://www.mmsonline.com/columns/calming-fears-about-automation
10. Kaplan, J. (2017). Don't fear the robot. The Wall Street Journal. July 22-23. C3. Retrieved from https://www.wsj.com/articles/dont-fear-the-robots-1500646623