

## SUMMARIZED VIEWS AND COMPARATIVE STUDY OF TECHNOLOGICAL UNEMPLOYMENT AND JOB OPPORTUNITIES IN INDIA

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### ABSTRACT

*The advancement in the automation is raising the specter of "Technological Unemployment" i.e. job loss caused by labor-saving technology and introduced 'Mechanical-muscle' and 'Mechanical-minds'. This introduces the most fiery and debatable claim of 21<sup>st</sup> century which is divided into optimists and pessimists. In the long term ramification of technologies on employment, there are more sectors losing jobs than creating jobs. There are theories which help in knowing the affects of technological development on job loss and job creation like Compensation theory and The Luddite fallacy. The technological changes have undoubtedly impacted the ways of work and situations in all work places. The fact we can consider that technology has simultaneously created new jobs for people who were keeping up the pace with it. But many people believe that the impact of technology on destroying jobs is more prominent than creating them. This study wants to offer a social vision where work will no longer central. Unless people direct technology, technology will increasingly direct people, with mass unemployment or underemployment and a possible atrophying of the human soul i.e. human thinking, feeling and will as likely consequences. Now after several waves of technologies, the question of the kind of workless society or a society not so heavily defined by work has become an urgent need for analysis and imagination. The youth of the country is the future of the nation and playing the most influential role in the development of economy of India. The youth of the nation is facing the troublesome of 'Technological Unemployment', whereas some of them are taking delight of their potential and talent to be the part of the technological challenges and opportunities. My study contains the small amount of research and analysis to study the relationship between technological shocks and unemployment and to which degree the population of human resource is appreciating the technological advancements. This study has been done to bring some suggestions from the human resources which will help in the understanding the current whereabouts, in reduction of technological unemployment and to increase the job opportunities.*

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**Keywords:** *Technological Unemployment, Mechanical-Muscle, Compensation Theory, The Luddite Fallacy, Current Whereabouts.*

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### Introduction

As we know since ages, technologies are changing our lives for good by making work process simpler for us. The technological development and automation is the debated topic for long, with the recent concern that advancement of technology is causing unemployment by changing the process at the workplace. The labour markets are decreasing drastically and are getting replaced by machines, which is creating unemployment due to technology. The technological changes have undoubtedly impacted the ways of work and situations in all work places. The fact we can consider that technology has simultaneously created new jobs for people who were keeping up the pace with it. But many people believe that the impact of technology on destroying jobs is more prominent than creating them. This study wants to offer a social vision where work will no longer central. Unless people direct technology,

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### **Literature Review**

Several studies across the world show the different attributes in which they mentioned the effect of technology on the employment rate. Riccardo Campa, Jagiellonian University of Krakow has traced a brief history of a particular relevant concept regarding technological employment in the article 'Technological Unemployment. A Brief History of an Idea', *Orbisdearum*, Vol. 6, Issue 2 (2018), pp. 57-79. The historical narration aims at covering four centuries, since the beginning of the industrial revolution up to the present. The objective of his article is to drive attention to a concept that could be extremely useful to understand the technological and societal changes occurring in the twenty-first century.

**Ben Vermeulen, Jan Kesselhut, Andreas Pyka** of Institute of Economics, University of Hohenheim, 70599 Stuttgart, Germany and Pier Paolo Saviotti, Faculty of Geosciences, University of Utrecht, 3500 Utrecht, The Netherlands, have written in one of their article, titled 'The Impact of Automation on Employment: Just the Usual Structural Change?'. Their article reveals how potential job loss due to automation in "applying" sectors is counterbalanced by job creation in "making" sectors as well in complementary and quaternary, spillover sectors. And they also studied several macro-level scenarios on employment and found that mankind is facing "the usual structural change" rather than the "end of work". They provided recommendations on policy instruments that enhance the dynamic efficiency of structural change.

In *Journal of Business Ethics* (2019) 160:319–337, the research paper 'Technological Unemployment, Meaning in Life, Purpose of Business, and the Future of Stakeholders' by Tae Wan Kim and Alan Scheller-Wolf, mentioned that machine age, a universal basic income or welfare aids alone would achieve only limited success in bolstering and reinforcing the health of a just and decent society. Hence, businesses that naively automate the workplace will put themselves at risk to become contributors to a major societal and ethical problem in the second machine age.

### **Objectives of the Study**

The aim of the present study is to investigate the employed and unemployed both regarding the technological unemployment and job opportunities in the era where automation is taking place, with the following specific objectives:-

- To know how and in which sectors technology is replacing the manpower.
- To know how technological changes and automation is affecting the employment rates in India.
- To study about the psychology of the population of India regarding correlation of automation and job opportunities.
- To know the sectors on which the technological up-gradation and automation is adversely affecting the job opportunities in India.
- To know how technology and automation can help in increasing job opportunities according to the population of India.

### **Data base and Research Methodology**

To understand the research methodology as per the data base in brief, this study is partially based on qualitative research methodology and partially based on quantitative research methodology. The analytical based quantitative data are collected from primary sources only. Primary data is collected from well structured questionnaire which consisted 8 easy questions. These questionnaires were personally distributed to the respondents through online process. The participation of respondents was completely voluntary in the survey which helped in the unbiased survey to draw unbiased calculations and conclusions. The average estimated time of 3 minutes were taken by the respondents to fill the particular questionnaire regarding technological unemployment and their behavior for the same. The data which were collected with the help of questionnaire is presented with the help of charts. Averages are shown for the better presentation of the collected data.

### **Sampling Design**

69 respondents were taken for the study from different cities of India. Sample respondents were selected randomly. This study has taken both employed and unemployed group of different working sectors in India. Both the groups of samples include both male and female respondents.

### Limitation of the Study

This study is not free from limitations. Such as, there are only 69 respondents of Indian population have been taken as sample and in 100% of respondents, there are only 26.09% of female respondents who are selected randomly as samples. No age limit has been considered for this study. This study considered both employed and unemployed respondents. This study is fully based on the present time. No past records have been considered for the study.

### Technological Unemployment

Technological unemployment is the situation which occurs when development in technology and working practices cause some employees or workers to lose their jobs. It can be considered to be a part of the structural unemployment. A contemporary example of technological unemployment is the displacement of retail cashiers by self-service tills.

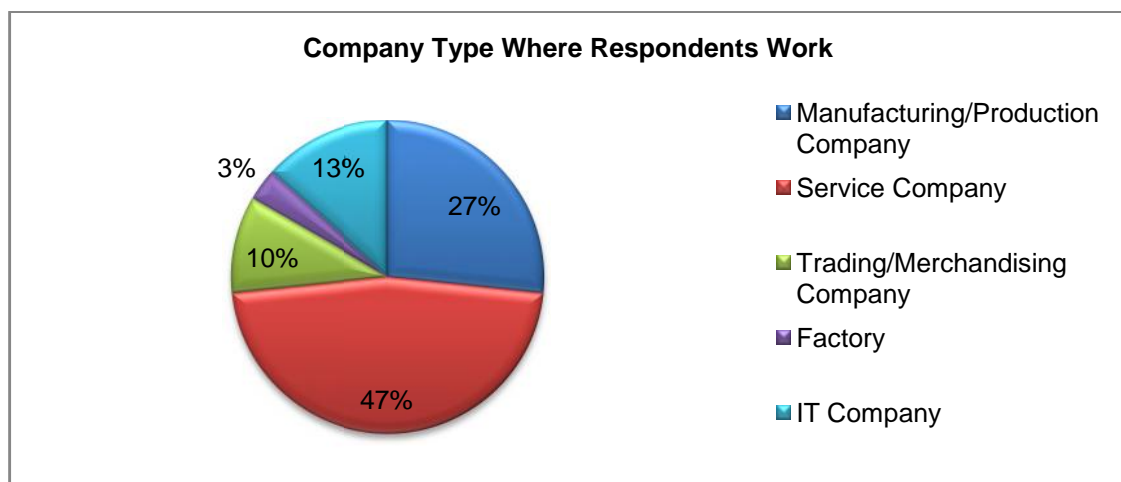
The phenomenon of technological unemployment is likely to have existed since at least the invention of the wheel. The medieval period saw the widespread adoption of newly invented technologies as well as older ones which had been conceived yet barely used in the Classical era. Mass unemployment began to reappear in Europe in the 15<sup>th</sup> century, partially as a result of population growth and partially due to changes in the availability of land for subsistence farming caused by early enclosure. As a result of the threat of unemployment, there was less tolerance for disruptive new technologies.

Since about 2017, a new wave of concern over technological unemployment had become prominent, this time over the effects of artificial intelligence. AI threatens to cause an “economic singularity”, with job churns too rapid for human to adapt to, leading to widespread technological unemployment. Though, it is advised that with the right responses by business leaders, policy makers and society, the impact of AI could be a net positive for workers. When we talk about the overall impact of technological changes and automation on unemployment, there are several observations to support following two statements.

- Technological change can increase unemployment:- Technological change will not cause unemployment, if labour markets are flexible. However, if there are labour market inflexibilities, then it can cause unemployment- at least, for a certain time period.
- Technological change not cause unemployment:- Technological changes merely changes the types of job that occurs in the economy. If labour productivity increases, all can enjoy a greater range of goods and services.

### Data Analysis and Interpretation

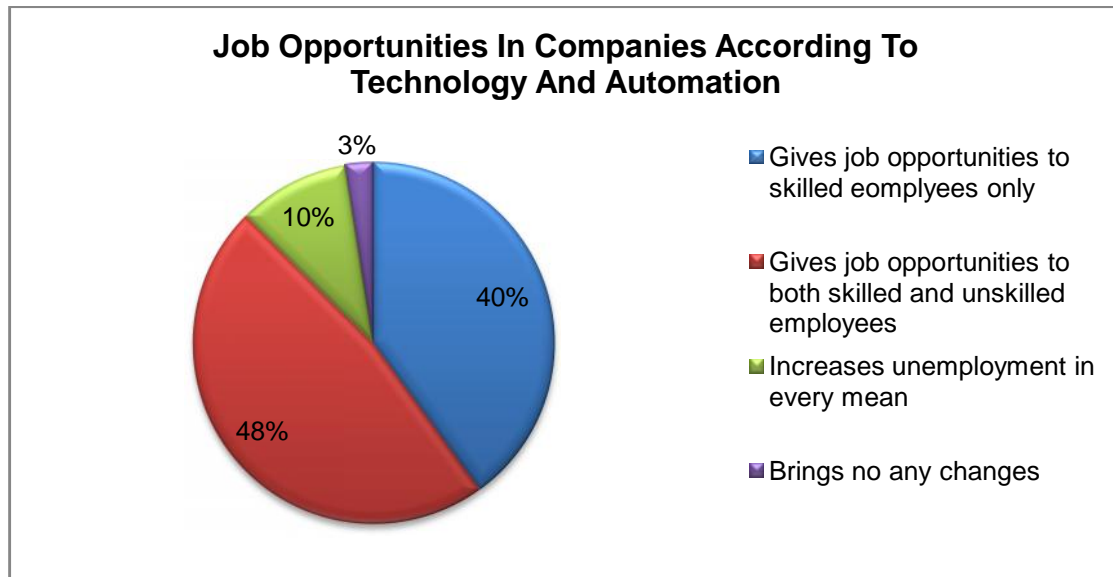
Illustration 1



Source: Field Survey

- Majorly respondents contributed from the Service sectors and Manufacturing companies, which is 47% and 27% respectively.
- To give a balance approach and representation of multiple sectors to survey, respondents from IT and trading companies, were also taken into consideration.

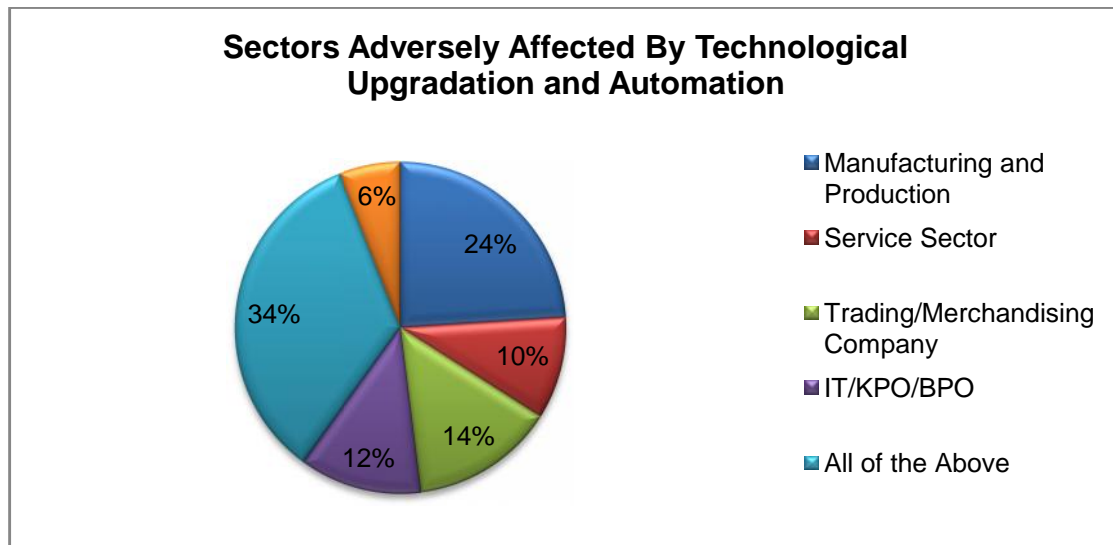
Illustration 2



Source: Field Survey

- This survey has clearly shown that the majority of respondents perceive that as almost half of the employers (48%) are strictly willing to enroll only skilled employees.
- According to around 40% respondents, companies are reflecting balanced approached as they are open for skilled and unskilled employees.

Illustration 3



Source: Field survey

- As per the responder's point of view, Manufacturing and Production sector along with IT and BPO sector among the highly affected sectors from unemployment point of view, in lieu of increasing Technological upgradation and automation.

#### Findings

- According to respondents the technological advancement is not greatly affecting the overall Unemployment (10%), however 40% employers are now preferring to on-board only skilled employees who can handle the newer technology in productive way.

- This expectation of employers creating pull on part of employees for upgradation of their skill and knowledge.
- Manufacturing sector (30%) has come out prominently during the survey where technological improvement is adversely affecting the Employment opportunities, whereas service sector is least affected.
- New technology brings fresh change in the system but same time it required new skill set. Currently the mismatch between the new technology requirement and skill set of existing operator is a major cause of low production, in spite of having better technology.
- Cost of Repair and restore and opportunity loss due to system failure is very high, so skilled manpower is must for technologically advanced machinery and production system. This makes the skill upgradation of existing workforce indispensable.
- According to respondents technology and automation brings lots of business ideas and opportunities. It is helpful in enhancing the production efficiency and that will generate more jobs.
- Automation is the part of technological advancement and advancement in any field always reduces the role of error. Hence automation has helped in reducing manual flaws and manufacturing precision products. Automation in coming days will help in achieving greater heights but the apathy is such that there will be reduction in jobs unskilled workers.
- Some of the respondents said that to improve performance in computer technology sector and making less human errors, helping in demand of skilled people which automatically increases job opportunities.

#### **Suggestions**

- Automation as a word is really fascinating for the business and industry but it's a double-edged sword: on one hand improves productivity while on other hand it requires specialized knowledge and skill to operate and in case of malfunctioning the cost of repair and restore is very high. So industry must ensure the scalability and smart mix of Technology and human labor in order to ensure the proper balance.
- This increasing pace of Technology and automation opening the new doors of opportunity for workforce, but unfortunately the skill upgradation centers are still minimal. Government must review its entire technical education skeleton which includes ITI's, Polytechnic colleges, and Engineering colleges, in term of syllabus, curriculum and procedures. All efforts must be in line to develop the workforce with current demand of industry rather to provide a decorative degree.
- Industry and Business houses must come forward to develop the Technical Development center.
- Government must review the much talked and hyped Scheme of 'Skill India' and the policy makers must evaluate the effectiveness of Skill India on a bench mark that how it is upgrading the Skill set of underprivileged workforce in pure statistical terms.

#### **Conclusion**

Automation is the demand, world needs changes. Every time some things come as hype and this time its automation. Nothing to worry about, human has brain, they will evolve something out of something. It looks quite vague but truth, before centuries nobody expected anything automatic but here are robots now. Here also if the labourer is getting replaced by automation then for these machines somebody is needed to make it and somebody is needed to run or operate it. There is nothing like self recovery in anything which does not possess life. New technologies always brings new opportunities, new technologies brings increased production which requires new employees and it gives new opportunities to learn something new every day and every new technology provides opportunity to new and experienced people. To conclude people should accept the change and think in a productive manner.

#### **References**

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2. Ben Vermeulen, Jan Kesselhut, Andreas Pyka of Institute of Economics, University of Hohenheim, 70599 Stuttgart, Germany and Pier Paolo Saviotti, Faculty of Geosciences, University of Utrecht, 3500 Utrecht, The Netherlands, 'The Impact of Automation on Employment: Just the Usual Structural Change?'

- 3. Tae Wan Kim and Alan Scheller-Wolf, 'Technological Unemployment, Meaning in Life, Purpose of Business, and the Future of Stakeholders', Journal of Business Ethics (2019) 160:319–337.

**Annexure 1**

**Questionnaire**

**Q.1** NAME OF RESPONDENT:- .....

**Q.2** GENDER:-

- MALE
- FEMALE

**Q.3** EMPLOYMENT STATUS:-

- EMPLOYED
- UNEMPLOYED

**Q.4** DESIGNATION (IF EMPLOYED):- .....

**Q.5** COMPANY TYPE WHERE RESPONDENTS WORK:-

- MANUFACTURING/PRODUCTION COMPANY
- SERVICE COMPANY
- TRADING/MERCHANDISING COMPANY
- FACTORY
- IT COMPANY

**Q.6** ACCORDING TO THE RESPONDENT – “THE TECHNOLOGY AND AUTOMATION IN COMPANIES.....”

- GIVES OPPORTUNITIES TO SKILLED EMPLOYEES/LABOURERS ONLY.
- GIVES JOB OPPORTUNITIES TO BOTH SKILLED AND UNSKILLED EMPLOYEES/LABOURERS.
- IN UNEMPLOYMENT IN EVERY MEAN.
- BRINGS NO ANY CHANGE

**Q.7** ACCORDING TO RESPONDENTS: TECHNOLOGICAL UPGRADATION AND AUTOMATION IS ADVERSLY AFFECTING THE JOB OPPORTUNITIES IN WHICH OF THE FOLLOWING SECTORS:-

- MANUFACTURING AND PRODUCTION
- SERVICE SECTOR
- TRADING/MERCHANDISING COMPANY
- IT/KPO/BPO
- OTHERS (PLEASE SPECIFY):-

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**Q.8** HOW TECHNOLOGY AND AUTOMATION CAN HELP IN INCREASING JOB OPPORTUNITIES ACCORDING TO RESPONDENTS?

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