GNPS FAIRGAZE MUN 1.0

ILO

The impact of automation and artificial intelligence on the future of job displacement.

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LETTER BY EXECUTIVE BOARD

Welcome to the International Labour Organisation being simulated at GNPS FairGaze Model United Nations Conference 1.0, where we shall be discussing the agenda 'The impact of automation and artificial intelligence on the future of job displacement'.

The success of the International Labour Organisation as a committee will depend on each delegate. A council is defined by its delegates more than by its executive board. It is you, the participating delegates, which shape the outcome. You must therefore be prepared to participate in a truly rewarding experience. Apart from the research on the agenda, Delegates should be aware of their country's historical background and current situation in global politics and international relations. Delegates should come into the committee with a clear foreign policy and the representatives of the governments of their countries.

We are unaware of your credentials/experience with Model United Nations however, no matter what that may amount to, it is a given that there can be no productive simulation in the absence of substantial research. There are multiple approaches to preparing for a simulation such as this and we shall not dictate to you which of these you must adopt, that is upon you to decide, however, we can assert with confidence that the commonality among all these approaches is that research constitutes their first step.

So once the research process is initiated it needs to be coupled with proactive attempts to understand. Application of the information acquired through research always requires understanding. There is no particular point at which research concludes and analysis thereof begins, these are two intermittent processes that may continue till the last minute of the simulation.

Besides research, both on the agenda and the mandate of the committee the participants are required to have a firm grasp on diplomatic conduct. Diplomatic conduct can be general and country-specific, what constitutes general diplomatic conduct (which includes language, gestures, and any other kind of expression) can be gauged from the definition of the term diplomacy. There is no precise definition of the term but an appraisal of various definitions shall help formulate a reasonably accurate notion thereof.

Country-specific diplomatic conduct can be determined by a study of past actions of your

country (country allotted which a participant is called the delegate of) in the international fora. Speeches, statements, voting records, instances of walk-outs, boycotting of meetings et cetera can contribute to building an understanding of the same, apart from these sources, video graphic recordings of these sessions and meetings can greatly help this understanding. It is expected of all participants to conduct themselves impeccably, the concept of MUN's wasn't created simply to get to students to talk about things diplomats would usually talk about, but to also hone their conduct, their reasoning, logic, negotiation, and lobbying skills, all of which can be referred to as 'soft skills. Diplomatic conduct harmoniously links speech and body language, it is a bridge between verbal and nonverbal communication thereby making it an important criterion for us to assess your performance and effectiveness. Manipulation of procedure of the committee to gain extra floor time or to stall the statement/ comment/speech of another delegate or to cause disruption therein shall not be tolerated. To ensure that procedure is not misused, delegates must be aware of the procedure of the ILO.

Having stated the above, it is now prudent to explain the purpose and nature of the background guide summarily. The background guide is a preliminary research brief about the committee and the agenda. It is NOT meant to provide participants with exhaustive information. The primary purpose of a background guide is to ensure that all participants are at a level playing field, thus it ensures that every participant possesses a modicum of information from which further information can be drawn. It serves as a base upon which the research is built. Nothing in the background guide has any evidentiary value, it can never be used as conclusive proof in the committee. Delegates must dig deeper from where the background guide leaves them.

Research may commence well before the background guide is released, delegates are free to read up on the agenda which has been made public and formulate a structure of research. Your structure doesn't have to matchper cent the one that the background guide presents as long as you have a solid understanding of what you are going to be discussing in the committee.

That being said, we wish you the best of preparations and hope that this simulation shall mutually benefit all those involved in it. We hope we can learn from you and impart our knowledge to you in the process. For any doubts that you may have, you may contact any member of the executive board. The email address of your committee president will be given in this guide.

Looking forward to seeing you all.

A Brief History of Automation and AI

Automation has been a part of human history for centuries. From simple machines like the water wheel and the windmill to more complex industrial machinery, humans have continually sought ways to automate tasks and improve efficiency.

- **Early Automation:** The Industrial Revolution marked a significant turning point in automation, with the introduction of steam-powered machines and assembly lines. This led to mass production and increased productivity.
- **Advancements in Automation:** Throughout the 20th century, automation continued to evolve with advancements in technology. Robotics, computer-controlled machinery, and programmable logic controllers (PLCs) have become increasingly common in various industries.

Artificial Intelligence (AI), on the other hand, is a relatively recent field. While the concept of creating intelligent machines dates back centuries, significant advancements in AI have occurred only in the past few decades.

- **Early AI:** Early AI research focused on developing systems that could perform tasks that require human intelligence, such as problem-solving, learning, and reasoning.
- **Machine Learning:** A major breakthrough in AI came with the development of machine learning, which enables computers to learn from data and improve their performance over time.
- **Deep Learning:** Deep learning, a subset of machine learning, has gained significant attention in recent years due to its ability to process large amounts of data and recognize complex patterns.

The convergence of automation and AI has led to the development of autonomous systems that can perform tasks with minimal human intervention. Examples include self-driving cars, automated manufacturing processes, and AI-powered chatbots.

As automation and AI continue to advance, their impact on society is becoming increasingly evident. While these technologies offer numerous benefits, such as increased efficiency and productivity, they also raise concerns about job displacement, ethical implications, and the potential for misuse.

Historical Context of Technological Advancements and Job Displacement

The relationship between technological advancements and job displacement has been a recurring theme throughout history. While new technologies often create new jobs and industries, they can also lead to the obsolescence of certain occupations and skills.

Early Examples

- **Agricultural Revolution:** The shift from subsistence farming to large-scale agriculture led to job displacement for many farmers, as fewer workers were needed to produce food. However, it also created new jobs in related industries, such as transportation and processing.
- **Industrial Revolution:** The introduction of machines and factories during the Industrial Revolution led to significant job displacement in traditional crafts and manufacturing. However, it also created new jobs in manufacturing, transportation, and services.

20th Century Developments

- **Automation and Robotics:** The development of automation and robotics technologies in the 20th century led to job displacement in manufacturing and other industries. However, it also created new jobs in areas such as automation engineering, robotics maintenance, and data analysis.
- **Computerization:** The widespread adoption of computers and information technology in the late 20th century led to job displacement in certain clerical and administrative roles. However, it also created new jobs in information technology, software development, and cybersecurity.

Contemporary Trends

- **Artificial Intelligence and Automation:** Recent advancements in artificial intelligence and automation are leading to further job displacement in areas such as manufacturing, transportation, and customer service. However, it is also creating new jobs in AI development, data science, and related fields.
- **Gig Economy:** The rise of the gig economy, characterized by short-term,

flexible work arrangements, has been fueled by technological advancements. While it has created new opportunities for some, it has also raised concerns about job security and worker protections.

Throughout history, technological advancements have both created and destroyed jobs. While it is difficult to predict the exact impact of future technological changes, it is clear that the ability to adapt to new skills and technologies will be increasingly important for workers.

Technological Determinism vs. Sociotechnical Systems

Technological determinism and **sociotechnical systems** are two contrasting perspectives on the relationship between technology and society.

Technological Determinism

- **Core Belief:** Technological determinism posits that technology is the primary driver of social change. It suggests that technological advancements inevitably shape society, culture, and institutions.
- **Key Assumptions:**
    - Technology has its own agency and momentum, independent of human influence.
    - Technological progress is inevitable and linear.
    - Social and cultural factors play a passive role in shaping technological development.
- **Criticisms:** Technological determinism has been criticized for oversimplifying the complex interplay between technology and society. It often overlooks the role of human agency, social context, and cultural values in shaping technological development and its impacts.

Sociotechnical Systems

- **Core Belief:** Sociotechnical systems theory emphasizes the interdependence of technology and social factors. It suggests that technology is not a neutral force but is shaped and influenced by social, cultural, and economic

contexts.

- **Key Assumptions:**
    - Technology is not a standalone entity but is embedded within social systems.
    - The development and use of technology are influenced by social, cultural, and economic factors.
    - Technological change is not predetermined but is shaped by human choices and decisions.
- **Advantages:** Sociotechnical systems theory provides a more nuanced and comprehensive understanding of the relationship between technology and society. It recognizes the active role of humans in shaping technological development and its impacts.

Skill-biased Technological Change

Skill-biased technological change refers to the phenomenon where technological advancements favor workers with certain skills over others. In other words, some jobs become more valuable due to new technologies, while others become less valuable or obsolete.

Key Characteristics of Skill-biased Technological Change:

- **Complementarity:** Some technologies complement certain skills, making them more valuable. For example, automation technologies may complement workers with analytical and problem-solving skills.
- **Substitution:** Other technologies can substitute for certain skills, making them less valuable. For example, artificial intelligence may substitute for human workers in routine tasks.
- **Polarization:** Skill-biased technological change often leads to a polarization of the labor market, with increasing demand for high-skilled workers and decreasing demand for low-skilled workers.
- **Wage Inequality:** This polarization can contribute to rising income inequality, as high-skilled workers may experience wage growth, while low-skilled workers may face wage stagnation or decline.

Examples of Skill-biased Technological Change:

- **Rise of the knowledge economy:** The increasing importance of knowledge-based industries, such as information technology and biotechnology, has favored workers with advanced education and technical skills.
- **Automation of routine tasks:** Automation technologies have led to the displacement of workers in routine, repetitive tasks, such as manufacturing and data entry.
- **Growth of the gig economy:** The rise of the gig economy, characterized by short-term, flexible work arrangements, has created opportunities for workers with specialized skills, but it has also led to increased job insecurity for many.

Policy Implications:

- **Education and training:** Governments can invest in education and training programs to equip workers with the skills needed to thrive in a technology-driven economy.
- **Social safety nets:** Strong social safety nets can help workers who are displaced by technological change to transition to new jobs or careers.
- **Wage policies:** Policies that promote wage growth for low-skilled workers can help mitigate the negative impacts of skill-biased technological change.

Case Studies of Automation-Driven Job Losses in Various Sectors

Manufacturing

- **Automotive Industry:** The widespread adoption of robots and automation technologies in automotive manufacturing has led to significant job losses in assembly line roles.
- **Electronics Manufacturing:** The shift of electronics manufacturing to countries with lower labor costs has been driven in part by automation, leading to job losses in developed economies.

Customer Service

- **Call Centers:** Automation technologies, such as AI-powered chatbots, have replaced many human call center agents, leading to job losses in this sector.

- **Retail:** Self-checkout kiosks and online shopping have reduced the need for human cashiers and retail workers, leading to job displacement.

Transportation

- **Taxi and Ride-Sharing:** The rise of ride-sharing services, driven by automation technologies, has disrupted the traditional taxi industry, leading to job losses for taxi drivers.
- **Trucking:** Autonomous trucking technology has the potential to disrupt the trucking industry, leading to job losses for truck drivers.

Finance

- **Back-Office Operations:** Automation technologies have been used to streamline back-office operations in the finance industry, leading to job losses in areas such as data entry and processing.

Healthcare

- **Diagnostic Imaging:** Automated medical imaging systems have reduced the need for human radiologists in certain tasks, leading to job displacement.

Analysis of the Impact of Automation on Different Regions and Countries

The impact of automation on job markets varies significantly across different regions and countries due to factors such as:

- **Economic Development:** Developed economies with higher wages are more likely to adopt automation technologies to reduce labor costs. This can lead to job losses in these regions.
- **Skill Levels:** Countries with a highly skilled workforce may be better equipped to adapt to automation by developing new skills and creating new jobs.
- **Government Policies:** Government policies can influence the impact of automation on job markets. For example, policies that support education and training can help workers transition to new roles.

- **Industry Structure:** The structure of the economy can also affect the impact of automation. Countries with a diverse economy may be less vulnerable to job losses from automation.

Specific examples of regional and country-level impacts include:

- **China:** China has experienced significant job losses in manufacturing due to automation, but it has also created new jobs in related sectors, such as technology and services.
- **United States:** The U.S. has been impacted by automation in various sectors, leading to job losses in manufacturing and other industries. However, it has also seen growth in technology-related sectors.
- **Developing Countries:** Developing countries may be less affected by automation in the short term due to lower labor costs. However, in the long term, they may need to adapt to automation to remain competitive.

Overall, the impact of automation on different regions and countries is complex and depends on a variety of factors. While automation can lead to job losses, it can also create new opportunities and drive economic growth.

Government Policies to Address Job Displacement

Governments around the world have implemented various policies to address the challenges of job displacement caused by automation and technological change. These policies aim to mitigate the negative impacts of job losses, promote economic growth, and ensure a just transition for workers.

Key Policy Areas

- **Education and Training:**
    - **Upskilling and Reskilling Programs:** Governments can invest in programs to help workers acquire new skills that are in demand in the changing labor market.
    - **Lifelong Learning:** Promoting a culture of lifelong learning can enable workers to adapt to technological advancements and remain employable.

- **Partnerships with Industry:** Collaborations between government, academia, and industry can ensure that education and training programs align with the needs of the labor market.

- **Social Safety Nets:**
  - **Unemployment Benefits:** Robust unemployment benefits can provide financial support to workers who lose their jobs due to automation.
  - **Job Placement Services:** Government-funded job placement services can help workers find new employment opportunities.
  - **Wage Subsidies:** Temporary wage subsidies can encourage employers to hire displaced workers and support job creation.
- **Tax Incentives:**
  - **Investment in Technology:** Tax incentives can encourage businesses to invest in new technologies and create jobs.
  - **Research and Development:** Tax breaks for research and development can promote innovation and create new industries.
- **Trade Policies:**
  - **Fair Trade Practices:** Ensuring fair trade practices can help protect domestic jobs from competition from countries with lower labor costs.
  - **Trade Agreements:** Carefully negotiated trade agreements can safeguard the interests of domestic workers.
- **Regulatory Framework:**
  - **Labor Standards:** Strong labor standards can protect workers' rights and ensure fair competition.
  - **Data Privacy:** Regulations governing data privacy can protect workers' personal information and prevent its misuse.

Education and Training Initiatives

- **Technical and Vocational Education:** Expanding access to technical and vocational education can equip workers with the skills needed for in-demand jobs.

- **Online Learning:** Online learning platforms can provide flexible and affordable education and training opportunities.
- **Apprenticeships and Internships:** Partnerships between businesses and educational institutions can provide practical experience and job training.
- **Skill Development Programs:** Government-funded programs can help workers acquire new skills and adapt to technological changes.

Key Concepts

- **Automation:** The use of machines to perform tasks that were previously done by humans.
- **Artificial Intelligence:** The development of computer systems that can perform tasks that typically require human intelligence, such as learning, reasoning, and problem-solving.
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- **Job Displacement:** The loss of jobs due to technological advancements.
- **Job Creation:** The creation of new jobs as a result of technological advancements.
- **Skill-biased Technological Change:** The phenomenon where technological advancements favor workers with certain skills over others.

Potential Impacts of Automation and AI on Job Displacement

- **Job Loss:** Automation and AI could lead to job losses in sectors where tasks can be easily automated, such as manufacturing, transportation, and customer service.
- **Job Creation:** However, these technologies can also create new jobs in areas such as AI development, data science, and cybersecurity.
- **Skill-biased Technological Change:** Automation and AI may exacerbate existing skill gaps, as some workers may lack the skills needed to adapt to the changing labor market.
- **Wage Inequality:** The impact of automation and AI on wage inequality is a complex issue. While it could lead to increased income inequality, it could also create opportunities for workers with the right skills to earn higher wages.

- **Economic Growth:** Automation and AI can drive economic growth by increasing productivity and efficiency. However, the distribution of the benefits of this growth is a critical concern.

Policy Considerations

- **Education and Training:** Governments can invest in education and training programs to equip workers with the skills needed to thrive in a technology-driven economy.
- **Social Safety Nets:** Robust social safety nets can help workers who are displaced by automation to transition to new jobs or careers.
- **Wage Policies:** Policies that promote wage growth for low-skilled workers can help mitigate the negative impacts of automation.
- **Regulation:** Appropriate regulations can ensure that the benefits of automation are distributed fairly and that workers' rights are protected.

Conclusion

The impact of automation and AI on the future of job displacement is a complex and multifaceted issue. While these technologies have the potential to disrupt the labor market, they also offer opportunities for economic growth and innovation. By understanding the potential implications and implementing appropriate policies, governments and businesses can help ensure a just and equitable transition to a technology-driven future.

Research Websites

https://untoday.org/the-future-of-work/

chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.ioe-emp.org/index.php?eID=dumpFile&t=f&f=160463&token=8a7078c15874881a559cd18ae85a0b9283afd5db

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