

**Team Charter**

**POLICY DEVELOPMENT FOR  
FUTURE BALANCE OF  
MANPOWER AND ARTIFICIAL  
INTELLIGENCE**

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## Team 4 - Future balance of Manpower and AI

### Executive Summary

Artificial Intelligence (AI) is one of the most popular technology domains and its potential to transform industries and society makes AI an important area of research. However, with advancement of technology at a fast pace, there are concerns about economic, ethical, societal, and legal challenges that could be faced considering human rights, privacy, and security. Regulations and laws are being implemented by governments and regulatory bodies around the world to ensure AI is developed and used responsibly. With AI's growth at a fast pace, the regulatory landscape is constantly evolving with new laws and guidelines to keep up with technology. This paper aims to investigate 4 areas of Economy, Social/Ethical, Health and Technology domains when discussing policies that allow a healthy balance to exist between human workforce and AI.

### Economy

Within this section AI's impact is studied from 3 levels: AI's impact on National Level Economy, AI's impact on Corporate Level Economy and AI's impact on Individual Level Economy. On National Level, countries with AI technology and early adopters will have a significant boost in their economy's growth by 20 to 25 percent. On a Corporate Level, businesses ignoring AI will not be able to sustain in the longer run while it is expected that these organizations might be able to double their cash flow within a few years. Lastly, on Individual Level, the repetitive tasks that require simple reasoning may eventually get taken over by AI and the share of these kinds of jobs can decline from 40% to 30% by 2030. Long term economic models are hard to predict but certain models predicted by economists are shared and how they may become true.

### Social/Ethical

The areas of concern identified include privacy and surveillance, bias and discrimination, machine mistakes and inequality under the social impacts that mass adoption of AI will have. Existing policies on social impacts such as The Montreal Declaration and The UK Royal Society are studied where accountability, transparency, and validity are listed as important traits. To ensure data ownership and privacy it is recommended to ensure the anonymity of users to mitigate privacy and security risks for data that will not affect the recommendations. The recommendations provided by AI algorithms should be monitored closely to address the equality issue and policies should facilitate communication with academia and industries to study the possible use of technologies in the public sector.

Policies should also be developed to build AI literacy and monitor the outcome of the AI algorithms.

## Health & Safety

AI has the capability to improve health and safety outcomes by reducing the risk of human error, increasing accuracy and efficiency, and providing real-time monitoring and alerts. In the medical field the CPSO (College of Physicians and Surgeons of Ontario) outlines the guidelines where the importance of physician oversight and decision-making in the use of AI to ensure patient safety and quality of care are highlighted. Maintaining data security and privacy, guaranteeing patient safety and accuracy, training algorithms to spot patterns in medical data are some of the important challenges within the medical industry. The nuclear industry is also studied to showcase the balance of manpower and AI and the policies under Canadian Nuclear Safety Commission (CNSC) are discussed where the safe operation of nuclear power plants is given top priority by making sure AI is used in a responsible and well-regulated manner. When focusing on the policies, it is recommended for workers to be involved in the design process of AI to fully understand the technology and its capabilities. Continuous training is also recommended to allow employees to adapt easily to the company's dynamic changes with advancement of technology.

## Technology

Within the technology sector, the advantages of AI versus humans and the common usage of AI in the industry are mentioned. On the other hand, the advantages of humans within this sector are also analyzed and studied to compare the balance. Concerns and risks of AI such as lack of transparency and biased results are also studied. Under the regulations section, GDPR (General Data Protection Regulation) is highlighted and the important traits of fairness, accountability, and data security are studied. Furthermore, Regulation case studies are provided to study the approaches taken by US, India, and China when looking at AI regulations in the technology sector. As part of the policy recommendations, companies should perform rigorous testing before putting AI systems in use and multiple testing approaches are mentioned. The ability to explain AI decision making also is another important part of the recommendations where global explanation and local explanations are analyzed.

In conclusion this paper aims to investigate current and needed policies in the domain of Artificial Intelligence. Benefits and issues of using AI are mentioned to provide a better understanding for the reader within the four areas mentioned. Lastly, The Recommendation section provides a way forward and showcases the importance of investing in training materials to have a better AI literacy within organizations with the help of the government.